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MACKENZIE VALLEY PIPELINE INQUIRY

Government
Publication

IN THE MATTER OF APPLICATIONS BY EACH OF
(a) CANADIAN ARCTIC GAS PIPELINE LIMITED FOR A
RIGHT-OF-WAY THAT MIGHT BE GRANTED ACROSS
CROWN LANDS WITHIN THE YUKON TERRITORY AND
THE NORTHWEST TERRITORIES; and
(b) FOOTHILLS PIPE LINES LTD. FOR A RIGHT-OF-WAY
THAT MIGHT BE GRANTED ACROSS CROWN LANDS
WITHIN THE NORTHWEST TERRITORIES,
FOR THE PURPOSE OF A PROPOSED MACKENZIE VALLEY PIPELINE

and

IN THE MATTER OF THE SOCIAL, ENVIRONMENTAL AND
ECONOMIC IMPACT REGIONALLY OF THE CONSTRUCTION,
OPERATION AND SUBSEQUENT ABANDONMENT OF THE ABOVE
PROPOSED PIPELINE

(Before the Honourable Mr. Justice Berger, Commissioner)

Yellowknife, N.W.T.

April 6, 1976.

PROCEEDINGS AT INQUIRY

Volume 138

CANADIAN ARCTIC
GAS STUDY LTD.

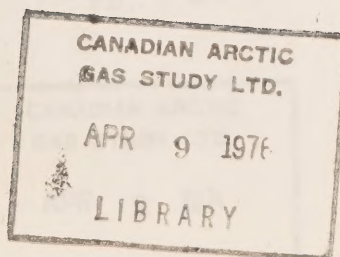
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E R R A T A

Page 20914, Line 27 "Mr. Krieber" should
correctly be spelled "Mr. Creber."



APPEARANCES:

Mr. Ian G. Scott, Q.C.,
Mr. Stephen T. Goudge,
Mr. Alick Ryder and
Mr. Ian Roland for Mackenzie Valley Pipeline
Inquiry;

Mr. Pierre Genest, Q.C.,
Mr. Jack Marshall, and
Mr. Darryl Carter for Canadian Arctic Gas
Pipeline Limited;
Mr. Reginald Gibbs, Q.C.,
Mr. Alan Hollingworth &
Mr. John W. Lutes, for Foothills Pipe Lines Ltd.;

Mr. Russell Anthony &
Pro. Alastair Lucas for Canadian Arctic Resources
Mr. Garth Evans Committee;

Mr. Glen W. Bell and
Mr. Gerry Sutton, for Northwest Territories
Indian Brotherhood, and
Metis Association of the
Northwest Territories;

Mr. John Bayly
or
Miss Leslie Lane for Inuit Tapirisat of Canada,
and The Committee for
Original Peoples Entitle-
ment;

Mr. Ron Veale and
Mr. Allen Lueck for The Council for the Yukon
Indians;

Mr. Carson H. Templeton, for Environment Protection
Board;

Mr. David Reesor for Northwest Territories
Association of Municipal-
ities;

Mr. Murray Sigler for Northwest Territories
Chamber of Commerce.

Mr. John Ballem, Q.C., for Producer Companys;

347
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Vol. 138

CANADIAN ARCTIC
GAS STUDY LTD.

APR 9 1971

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I N D E XPage

WITNESSES FOR MACKENZIE VALLEY PIPELINE INQUIRY:

D.H. MOSSOP	
Norman M. SIMMONS	
W.J. STEPHEN	
David W. NORTON	20919
- In Chief	20985
- Cross-Examination by Mr. Fall	20986
- Cross-Examination by Mr. Hollingworth	21002
- Cross-Examination by Mr. Veale	21036
- Cross-Examination by Mr. Bayly	

EXHIBITS:

535	Letter, Stephen to Allison re Migratory Bird Regulations & Sanctuaries in N.W.T., April 2, 1976	20919
536	Alignment Sheets re Foothills Changes	20919
537	Report "A History of Attempts to Commercially Fish the Mackenzie Delta"	20919
538	Overlay of Dr. Norton	20962
539	"Pipeline Panic" article by Dan Gross, January 1976	20997
540	Clipping from Anchorage Times, April 4/76 re haul roads	20997
541	Clipping from Anchorage Times, April 4/76 re pipeline welds	20997
542	Address by F.P. Moolin, February 18/76	20997
543	List of Government Reports & Studies	20997
544	"Pipeline Surveillance from the Inside" by D.W. Norton	20997

Yellowknife, N.W.T.

April 6, 1976.

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

MR. BAYLY: Mr. Commissioner, before we begin, I mentioned yesterday that we had sent a memo -- a memo had been sent by Miss Allison in January to Dr. Stephen, and we received a reply ^{to that} yesterday with answers to some of the questions that had been asked. I've distributed that to the participants and propose to file a copy as an exhibit so that it will be on the record that we have communicated with witnesses that are called by Commission counsel.

MR. HOLLINGWORTH: Mr. Commissioner, before we get under way I would like to file a series of alignment sheets which reflect new changes in the mainline alignment of the Foothills route changes in the wharf sites, the Niglintgak extension, and the change in the Parsons Lake lateral, along with a copy of the transmittal letter dated April 1, 1976 to Mr. Digby Hunt from R.J. Gibbs. I think Mr. Gibbs should be advised that Mr. Hunt has moved on to other things.

MR. GOUDGE: Since we're each doing it, sir, we have a report that we would like to ^{that was} file/referred to by Mr. Peet in his evidence last week, and we undertook then to provide ^{it} to the Inquiry, it's called "A History of Attempts to Commercially Fish

the Mackenzie River Delta, Northwest Territories," by Messrs. Barlishen & Webber, dated March 1973. It's referred to at page 2763.

MR. HOLLINGWORTH: I should have

Mossop, Simmons, Stephen, Norton
In Chief

1 pointed out, sir, that copies of the alignment sheets
2 I've just filed have been sent to all participants.
3 I expect they'll receive them today or tomorrow.

4 MR. GOUDGE: We could then
5 recommence with the evidence of this panel in chief, sir.

6 (LETTER STEPHEN TO ALLISON RE MIGRATORY BIRD
7 REGULATIONS & SANCTUARIES IN N.W.T. DATED APRIL
8 2, 1976 MARKED EXHIBIT 535)

9 (ALIGNMENT SHEETS RE FOOTHILLS CHANGES MARKED
10 EXHIBIT 536)

11 (REPORT" A HISTORY OF ATTEMPTS TO COMMERCIALY
12 FISH THE MACKENZIE DELTA" MARKED EXHIBIT 537)

13 MR. GOUDGE: We were at the
14 point where Dr. Stephen was about to read his evidence
15 to the Inquiry. I distributed yesterday the evidence
16 that Dr. Stephen will read in summary which was about
17 11 pages in length and this evidence was distributed
18 some time ago, but for convenience I've distributed
19 the full text.

20
21 D.H. MOSSOP
22 NORMAN M. SIMMONS
23 W.J. STEPHEN
DAVID W. NORTON, resumed:

24 DIRECT EXAMINATION BY MR. GOUDGE (CONTINUED):

25 Q Dr. Stephen, I wonder if
26 you might commence, sir, please, to read your evidence
27 to the Inquiry?

28 WITNESS STEPHEN: Thank you.
29 I would like to make a preliminary comment for the
30 benefit of my learned friends, that I've made some minor

Mossop, Simmons, Stephen, Norton
In Chief

editorial comments or changes in the text which reflect my idiosyncrasies for the English language and you shouldn't be overly disturbed by any deviations which you might hear because the changes are not substantive.

With that preliminary comment I'd like to start by saying that the Canadian Wildlife Service is solely responsible for the administration of the Migratory Birds Convention Act and related regulations in Canada, that resulted from the terms of the Migratory Bird Treaty of 1916 between Canada and the United States.

Due to the social and economic implications that may result from the administration of the Migratory Birds Convention Act, the Canadian Wildlife Service actively seeks the advice, co-operation and assistance of each provincial and territorial wildlife agency,

Although the Canadian Wildlife Service is directly responsible for migratory birds, their nests and eggs, migratory bird habitat generally is under the administrative control of the provinces and private land-owners south of 60 degrees north latitude, or the Department of Indian & Northern Development north of 60 degrees' latitude, except where the habitat is owned by the Canadian Wildlife Service or in Migratory Bird Sanctuaries where the Canadian Wildlife Service has legislative responsibilities.

Although DIAND controls the land surface and subsurface in the Northwest Territories including lands within Migratory Bird Sanctuaries,

Mossop, Simmons, Stephen, Norton
In Chief

1 Section 9 of the Sanctuary Regulations provides the
2 legislative authority to the Canadian Wildlife Service
3 to impose conditions in Migratory Bird Sanctuary permits
4 necessary to protect migratory birds, their eggs,
5 nests and habitat. As a result, land use proposals
6 designated for areas within Migratory Bird Sanctuaries
7 require both a land use permit issued by DIAND and a
8 Migratory Bird Sanctuary Permit issued by the Canadian
9 Wildlife Service on behalf of Environment Canada.
10 Activities not requiring a land use permit in sanctuar-
11 ies still require a sanctuary permit from the Canadian
12 Wildlife Service.

13 The Pacific Region of the
14 Canadian Wildlife Service is comprised of British Colum-
15 bia and the Yukon Territory while the western and
16 northern region is comprised of Alberta, Saskatchewan,
17 Manitoba and the Northwest Territories, including all
18 of the Arctic Islands and lands in Hudson and James
19 Bay falling under the administrative control of the
20 Northwest Territorial Government.

21 This geographic area is
22 extremely important to North American migratory bird
23 populations.

24 Within this area there are 18
25 geographically delineated goose populations numbering
26 about 2.5 million breeding birds. Can I have slide 1,
27 please? Coastal and inland water areas in the North-
28 west Territories and Yukon provide the majority of
29 breeding, brood rearing and staging habitat for these
30 populations. Large populations of sea birds, ducks,

Mossop, Simmons, Stephen, Norton
In Chief

1 swans, and 260 non-exploited bird species also reproduce
2 in this region. Slide 2, please. Many species,
3 especially waterfowl and sea birds, are either colonial
4 nesters or stage in large numbers in restricted areas.

5 THE COMMISSIONER: Excuse me,
6 Dr. Stephen. Is this the slide you're thinking of?

7 A No, it isn't, sorry, it
8 should be slide 2.

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Simmons, Mossop, Stephen, Norton
in Chief

There we go.

THE COMMISSIONER: Excuse me
just a minute. If you don't mind just backing up a bit,
what does this -- sorry, what does this represent?

A Those represent goose
breeding populations. 18 geographically delineated
goose populations which breed in western and northern
regions of the Canadian Wildlife Service.

Q For administrative purposes,
you have that western and northern region in the
Mackenzie Valley, you have a fairly dense concentration,
I take it from that and from all we've heard at this
Inquiry. Certainly I'm to draw that conclusion from
the map, I take it?

A That's right. That
represents various densities of populations as well
as their geographic delineation.

Q The next slide was the
-- consists of the flyways I think, which, by accident,
we saw first.

A I thought I had those
all in order. Do you want to go back a couple John?
Can you see if -- the major flyway coming down the
Mackenzie Valley; major flyways through west coast
Hudson Bay and along the Pacific coast; birds coming
from Anderson River Delta, Banks Island, the Mackenzie
Valley North Slope ending up mainly in California and
to a lesser extent in Texas and Louisiana.

THE COMMISSIONER: Right.
Sorry to hold you off there

Simmons, Mossop, Stephen, Norton,
In Chief

1 A Many species especially
2 waterfowl and sea birds are either colonial nesters or
3 stage in large numbers and restricted areas. I might
4 point out that stage is duck biologist's jargon for
5 migration stop-overs -- stop-over areas.

6 At such times, these populations
7 are especially vulnerable to disturbance or land use
8 changes. All breeding birds in the north have to com-
9 plete their life cycles within a critically short time.
10 In the restricted available breeding season, natural
11 climatic variations can stress populations to the point
12 where annual production is virtually stopped.

13 We do not have adequate informa-
14 tion on the effects of disturbance or land use changes
15 on the behavior, reproduction or physiology of northern
16 populations. It should be emphasized that only long-
17 term investigations will fully assess the effects of
18 manmade impacts in combination with natural variations
19 in environmental stresses.

20 Interests in migratory birds
21 are varied and many. While it has generally been
22 accepted that hunters are the largest and most important
23 interest group, recent evidence indicates that this may
24 no longer be the case. Photographers, students and
25 observers are increasing at a phenomenal rate in North
26 America. Estimates of participants are difficult to
27 generate, but indications are that use of ^{the}migratory bird
28 resource is increasing at a rate far exceeding the rates
29 of growth of population and national income.

30 Membership in the National

Simmons, Mossop, Stephen, Norton,
In Chief

1 Audubon Society for example, increased from 142,000
2 in 1970 to 321,000 in 1975. Subscriptions for the
3 National Wildlife Federation membership more than
4 doubled in the one year period from 1974 and 1975.
5 These rates of increase are chosen not because they are
6 the exception but because they are the rule.

7 Hunting provides ten million --
8 tens of millions of recreation days to hunters in
9 Canada and the United States. Some two million hunters
10 in the United States harvested over 13 million waterfowl
11 last year. In Canada, the number of permit sales has
12 grown steadily since 1967 and the migratory bird resource
13 is becoming the basis for more and more recreational
14 activity. There are now close ^{to} one-half million Migratory
15 Bird Permit holders in Canada and we could just flip
16 through those three slides which show the graphs, which
17 means you back up one. Permit sales Canada; western
18 provinces actually.

19 Hold it. I hope sir, that
20 you're used to this kind of debacle. The goose harvest,
21 shown to be increasing in Canada and the prairie provinces.
22 Duck harvest shown to be increasing in Canada and the
23 prairie provinces. I think that's the end of it, isn't
24 it John?

25 Another group of hunters rely
26 on the resource, not for recreation but for subsistence.
27 Harvest by the Indian and Inuit people of Canada, in
28 addition to being an important source of food, is having
29 an important impact on the bird resource. A study under-
30 taken by the James Bay Hydro Commission concluded that

Simmons, Mossop, Stephen, Norton
In Chief

1 Indian hunters and trappers along the Quebec Hudson Bay
2 coast alone harvested 50,000 Lesser snow geese in 1974.
3 This exceeds the entire recreational harvest of Lesser
4 snows from Manitoba, Ontario and Quebec combined for the
5 same year. Potential land claims by native people,
6 especially in areas delineated as major goose nesting
7 colonies and their claims to a fixed proportion of the
8 annual harvest will add a confounding dimension to
9 migratory bird management in North America.

10 In addition to the importance
11 of this region to migratory birds, this area is also
12 the most active in Canada relative to industrial develop-
13 ment.

14 Forecast depletion of conven-
15 tional oil and gas reserves in world markets has en-
16 couraged an intensive exploration and development in the
17 north. In addition to the Mackenzie Valley Pipeline,
18 other major oil and gas pipelines from the eastern and
19 western Arctic, such as the eastern Arctic pipeline have
20 been proposed. In spite of this, forecast energy short-
21 ages have encouraged exploitation of unconventional
22 reserves such as the Alberta Oil Sands.

23 Related to oil and gas extrac-
24 tion, at least nineteen major petrochemical developments
25 are proposed for western and northern region. Emphasis
26 is already -- is also steadily shifting to coal as an
27 energy source for power generation. Major strip-mining
28 developments are planned for Alberta and Saskatchewan
29 such as in the east slopes of the Rockies, including
30 proposals for five coal-fired, thermal generating plants

Simmons, Mossop, Stephen, Norton
In Chief

1 In the area of Hydro, no less than 16 hydro-electric
2 developments are anticipated for the region by the
3 year 2000 and numerous other development sites are
4 being identified as future possibilities.
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Mossop, Simmons, Stephen, Norton
In Chief

1 Increasing interest in nuclear power could result in the
2 development of nine generating stations in Manitoba
3 between the years 1988 and 2000. Global demands for
4 minerals have also stimulated mining interest and some
5 15 major deposits (mainly in the N.W.T.) are presently
6 under exploration for future development. These indus-
7 trial activities have encouraged the growth and estab-
8 lishment of urban centres and, in some instances, have
9 introduced human settlement into areas previously
10 unoccupied.

11 Agricultural development is also
12 of major importance in the western and northern region.
13 Continued expansion of cultivated lands has resulted in
14 over 135 million acres of agricultural land in the
15 three Prairie Provinces, and with foreseeable demands
16 for food production, this acreage is expanding in con-
17 junction with more intensive and efficient agricultural
18 practices.

19 The cumulative results of
20 these developments is a general reduction in the
21 quantity and quality of migratory bird habitat while
22 escalating demands on migratory bird resources through
23 more intensive use by man for educational, cultural and
24 economic reasons.

25 With the current development
26 trends in Northern Canada and the implications these
27 developments may have on migratory bird populations
28 and habitats, there is increased need for more inten-
29 sive migratory bird management efforts.

30 The use of migratory birds in

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In Chief

1 the Mackenzie Delta has remained relatively stable and
2 relates primarily to subsistence use of migratory birds.
3 This stability is reflected in the historic bag limit
4 restrictions established primarily by trial and error
5 over the years. I refer here to Tables 1 and 2.

6 These regulations will require
7 refinement as the potential for use accelerates resulting
8 from the development of the northern energy resources.

9 A further concern is that
10 major hunting effort will take place in traditional
11 staging areas where young of the year are more vulner-
12 able to harvest. The disturbance of birds during the
13 relatively short but critical northern autumn staging
14 period, both by hunting and other activities, could have
15 a major impact on continental migratory bird populations.

16 All migratory birds (game and non-
17 game species) have the following essential requirements:

- 18 1. Breeding
- 19 2. Brood rearing
- 20 3. Moulting
- 21 4. Staging and migration, and
- 22 5. Wintering.

23 Although all of these activities
24 occur in this region, the highest regional priorities
25 are for breeding, brood rearing and migration and staging.
26 Wintering generally occurs in other parts of North,
27 Central or South America.

28 Although species population
29 objectives for migratory birds management must consider
30 a vast array of social, economic and biological factors,

Mossop, Simmons, Stephen, Norton
In Chief

1 the management of migratory birds is primarily based on
2 the numerical status of a species, and the relationship
3 between species requirements and habitat types.

4 Even in Southern Canada where
5 research effort has been concentrated, there is a lack
6 of quantitative information describing the relationship
7 between migratory bird populations and their habitats.
8 Research on the relationship of northern populations and
9 their habitat requirements has been conducted for only
10 a few species and even in some of these areas we are
11 only in the preliminary stages of understanding the
12 species involved, such as the white-fronted goose.

13 It is unlikely that the Canadi-
14 an Wildlife Service in its current state will be in a
15 position to gather or supply the data necessary to
16 ensure the adequate protection of migratory birds in
17 the north. The Canadian Wildlife Service is currently
18 reorganizing from 2 to 5 regions in order to conform to
19 its recently assigned position in the Environmental
20 Management Service of Environment Canada. There are
21 five regions of E.M.S., each having a Regional Director
22 General, to whom I report, and to whom, one of whom, I
23 report. In addition, each component of E.M.S., including
24 the Canadian Wildlife Service, has a Staff Director
25 General in Ottawa.

26 As a result of this two-way
27 organizational structure, that is matrix, line management
28 of projects and programs is regionalized under the E.M.S.
29 Regional Director General with national policy and
30 and program co-ordinating being centred in Ottawa via

Mossop, Simmons, Stephen, Norton
In Chief

1 the Staff Director General of Canadian Wildlife Service.

2 consequently, regional programs must reflect:

3 (1) the objectives of Environment Canada as defined in
4 the Government Organization Act of 1970 (assented to
5 10th June 1971);

6 (2) E.M.S. national priorities; and

7 (3) the national migratory bird objectives of the
8 Canadian Wildlife Service.

9 Within this framework, the
10 Canadian Wildlife Service must also include provincial,
11 territorial and international concerns.

12 The expansion from two to
13 five regions has taken place within existing manpower
14 and resources; consequently, research and management
15 capabilities have been reduced at a time when impacts
16 on migratory birds and their habitats are increasing.
17 Concomitantly, there is an increased demand from
18 government and private interests in this region of the
19 Canadian Wildlife Service for research and/or advice.
20 The result is that the Canadian Wildlife Service is
21 sorely taxed to meet its current responsibilities and
22 obligations in northern and southern Canada.

23 In order to carry out the
24 regional migratory bird activities, the Migratory Birds
25 Division is organized into five programs:

26 (1) Migratory Birds Research and Surveys

27 (2) Avian problems

28 (3) Habitat management

29 (4) Migratory Birds Regulations and enforcement, and

30 (5) Migratory Birds Ecological assessment.

Mossop, Simmons, Stephen, Norton
In Chief

1 In brief, the responsibilities
2 and resources associated with these five program areas
3 are as follows:

4 The Migratory Birds Research
5 Section objective
6 and Surveys is to acquire precise population and
7 ecological knowledge required to intelligently manage
8 and protect the migratory bird resource. Traditionally
9 the research and surveys functions have worked at two
10 levels. Surveys personnel provide the broad overview
11 of population status required for regulating harvest
12 allocations. Research activity has been addressed to
13 solving more specific problems or phenomena concerning
14 populations or habitat.

15 While the traditional roles
16 are valid and will be maintained the aim of the section
17 is to develop more interaction between the research and
18 surveys functions and the other sections within the
19 Migratory Birds Division. In order to come to grips
20 with such fundamental problems as land use conflicts
21 and migratory bird population declines in the Prairie
22 Provinces we require integrated investigations at both
23 the intensive and extensive levels.

24 The avian problems program is
25 designed to focus on socially and biologically acceptable
26 solutions to conflicts between man and migratory birds.
27 The existing program is focused on the conflict between
28 crop damage caused by migratory birds. Other areas
29 of program involvement relate to bird strikes by air-
30 craft, urban development/wildlife problems, and
evaluation of bird dispersing techniques applicable to

Mossop, Simmons, Stephen, Norton
In Chief

1 agriculture, toxic materials spill contingency plans,
2 and areas having disease problems.
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Simmons, Mossop, Stephen, Norton
In Chief

1 The habitat management program
2 is one of the most important factors that determine and
3 regulates the numbers of wildlife residing in or passing
4 through Canada. Thus, the very survival of wildlife
5 in Canada is dependent on the maintenance of suitable
6 habitat. It is the responsibility of the habitat
7 management section to identify either independently or
8 in cooperation with other Canadian Wildlife Service
9 personnel, other agencies, organizations and individuals,
10 important, threatened or critical wildlife habitat.

11 Following selection of this
12 habitat, an attempt is made to secure these areas through
13 the acquisition, and fee simple, lease, cooperation or
14 form of agreement. On lands under Canadian Wildlife
15 Service control, this section is responsible for adminis-
16 tration and management of the areas for the optimum use
17 of wildlife, public recreation and other compatible
18 activities.

19 This program is -- migratory
20 birds regulations and enforcement program is respons-
21 ble for establishing acceptable levels of compliance
22 with the Migratory Birds Convention Act and regulations
23 thereunder.

24 This is accomplished through
25 close liaison with other federal agencies, particularly
26 the R.C.M. Police provincial and territorial enforcement
27 personnel and enforcement personnel of the United States
28 Fish and Wildlife Service; analyzing migratory bird
29 enforcement problems and developing solutions to such
30 problems in conjunction with other interests; planning

Simmons, Mossop, Stephen, Norton
In Chief

1 and presenting migratory bird training programs to the
2 RCM police, provincial agencies and technical institutes,
3 developing and carrying out cooperative operational
4 enforcement programs, interpreting the Migratory Bird
5 Convention Act and regulations thereunder to all enforce-
6 ment personnel; issuing all permits under the authority
7 of the Migratory Birds Convention Act, acting as the
8 focal point for the Canadian Wildlife Service in all
9 investigations involving migratory birds within the
10 responsibilities and authorities of the Migratory Birds
11 Convention Act.

12 Migratory Birds Ecological
13 Assessment Section carries out migratory bird habitat
14 and species impact related studies throughout the region.
15 This unit defines the existing and probable habitat states
16 by carrying out a variety of studies and designs and
17 recommends ways by which negative effects on migratory
18 birds and their habitat can be reduced.

19 The section carries out studies
20 of migratory birds including sea birds and their
21 habitats in all parts of the region including areas such
22 as the Alberta oil sands, Lancaster Sound, Saskatchewan-
23 Nelson River basin and so on. In addition, the loss of
24 migratory bird habitat due to agricultural practises
25 on the prairies is of major concern to this program.

26 In summary, a total of 48 man
27 years and 800,000 dollars plus change is spent on that
28 program; those five sections.

29 The problem of adequately
30 carrying out the preceding programs over an expanse of

Simmons, Mossop, Stephen, Norton
In Chief

country nearly two-thirds the size of Canada with a total of 48 man years is obvious, you know, particularly when one considers the significance of this geographic area to North American migratory birds.

Due to the present workload, the Canadian Wildlife Service has not been able to thoroughly investigate, analyze and predict what the likely ecological effects will be of northern development on the migratory bird populations over this vast area. As a result, measures to prevent or mitigate the consequences of these developments on migratory bird populations are poorly understood or entirely lacking. In order to meet these demands the following resources would be required:

1. An additional \$5,000 would be required for the enforcement coordinator presently stationed in Inuvik to become more operational in performing the duties vested in the position.
2. An additional enforcement coordinator would be required and likely based in Yellowknife with the required operational funds.

In migratory bird research and surveys, a supplement of two research scientists, three biologists and five technicians would be required in order to develop, refine management strategies for northern migratory bird populations. The following research and survey requirements have been identified:

- Marine bird ecology
- Breeding ecology of Arctic nesting migratory birds.

Simmons, Mossop, Stephen,
Norton,
In Chief

- Migratory bird surveys
- Surveys of native migratory bird harvest
- Contracts for feeding ecology and physiology of geese on moulting grounds
- Feeding ecology and reproduction of breeding geese
- Mapping of surficial geology, vegetation and all migratory bird use of various communities in Arctic islands and coastal plains at a scale of one to 250,000.

In the Migratory Bird Ecological Assessment Group, a supplement of four man years, two biologists and two technicians would be required to gather baseline information and adequately contribute to the technical assessment of development proposals.

In the Avian problem section, in order to develop operational capability in the development of avian deterrents associated with northern contingency measures, related to toxic material spills, airports, and so on; one permanent technician would be needed.

Currently, the Northwest Territories does not have a habitat management biologist. The current workloads relating to habitat development, including migratory bird sanctuaries in northern Canada are handled by the Alberta biologist with the foreseeable intensification of human activity in the Western Arctic alone warrants one additional biologist and a technician to adequately handle the workload.

In addition, an overhead

Simmons, Mossop, Stephen
Norton,
In Chief

1 of three persons in the form of two full-time stenograph-
2 ers and an accounts clerk would be required to service
3 those extra people.

4 The fact that these
5 requirements must be evaluated by the various managerial
6 levels resulting from the normal review protocols,
7 even if approved, the delays encountered would create
8 an undesirable situation from the standpoint of
9 acquiring the information necessary to refine our
10 management strategies on migratory birds.
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Mossop, Simmons, Stephen, Norton
In Chief

1 For example, any behavioural
2 research relating to the effects of aircraft on snow
3 goose productivity would require a well-designed study
4 over perhaps a two to three-year period. This may
5 appear to be unreasonably long period of time but one
6 must bear in mind that geese nest only once a year and
7 in order to make the results of such an investigation
8 meaningful it would require knowledge of the predistur-
9 bance situation in conjunction with a vast array of
10 environmental factors such as climatic influences,
11 nesting requirements, brood requirements, physiology, and
12 mortality to mention a few.

13 The social, ecological and
14 economic significance of migratory birds from a local,
15 national and international perspective make it of
16 paramount importance that proposed activities directly
17 or indirectly related to petroleum exploration,
18 production and transport in Northern Canada do not
19 adversely affect the migratory bird resource. It is
20 recommended that the Canadian Wildlife Service be in a
21 strong position to adequately research the concerns
22 identified and develop sound local, national and
23 international migratory bird management strategies be-
24 fore potentially damaging activities commence.

25 Problems associated with any
26 inspection and monitoring of pipeline developments may
27 best be considered separately from the long-term man-
28 power and resource needs previously discussed for
29 managing the migratory bird resource. Although I will
30 not elaborate on inspection and monitoring requirements

Mossop, Simmons, Stephen, Norton
In Chief

for the Canadian Wildlife Service relative to pipeline development proposals, it seems only reasonable to assume that these needs (either enforcement or research oriented) would have to supplement ongoing program requirements. In view of the multitude of interests (private and government) that would be involved in any pipeline development there seems to be an obvious requirement for some form of co-ordinated inspection, such as enforcement, without dilution of the existing jurisdictional framework. For me to attempt to predict the enforcement staff requirements for pipeline construction activities would be premature and somewhat conjectural, but there is little doubt that there would be a need for additional staff.

From an ecological standpoint, it would be extremely valuable to measure pipeline development activities and their effect on the migratory birds environment. Of particular importance in this regard would be the evaluation of regulatory constraints imposed on such a development to determine their adequacy. As with enforcement, I believe it would be conjectural for me to try and identify what would be required. This is particularly true when one considers the number of interested private and government agencies that would likely be involved. Investigations would have to be co-ordinated and they would definitely require supplementary manpower and funds. I might also add that these studies invariably require intensive predevelopment knowledge of biotic systems as well as post development^{the fact}. I make this point to clarify that in the chronology of any development, time must be allowed for predevelopment

Mossop, Simmons, Stephen, Norton
In Chief

1 studies to take place that will yield statistically
2 comparable results with studies conducted during the
3 construction, operation and abandonm ent of the develop-
4 ment.

5 Q Thank you, Dr. Stephen.

6 I propose now to move to Dr. Norton, Mr. Commissioner.
7 I should say that Dr. Norton has prepared evidence
8 which I've distributed and before somebody else says
9 it, let me acknowledge that it was quite late in dis-
10 tribution. That's my fault, I accept full responsibility
11 for that. What we would propose is if cross-examination
12 can't be done adequately this time around, Dr. Norton
13 has indicated reluctantly a willingness to return, and
14 we would look forward to being able to make arrangements
15 tothat effect.

16 Dr. Norton, with that preamble,
17 would you be good enough to read your evidence to the
18 Commissioner, please?

19 WITNESS NORTON: Before .I
20 begin I would like to say that I certainly was not
21 reluctant to come --

22 Q You should have been, it was
23 my fault, and I apologize both to you and the other participants.

24 A I was reluctant merely to confront
25 the problems of non-coordinated airline schedules and
26 a very busy schedule, I also should point out that I
27 regret very much that Dr. LeResche could not be here.
28 We intended to present a co-ordinated picture of what's
29 happening in Alaska and his very absence is perhaps
30 eloquent testimony to the kind of stress forecast that's

Mossop, Simmons, Stephen, Norton
In Chief

1 been given by the previous three speakers on management
2 topics.

3 I would like to speak to the
4 topic of the effects of the Trans-Alaska Oil Pipeline
5 construction phase on fish and wildlife management.

6 It would be a mistake for me to
7 give, or for you to accept a simplistic analysis of
8 this very broad topic. Let me illustrate this warning.

9 As 20,000 pipeline workers, their families and support
10 personnel in 1974 began to choke Alaska's frail service
11 facilities, we braced for a massive assault from greatly
12 increased numbers of hunters and fishermen, and we
13 contemplated reductions in bag limits, open seasons, and
14 other regulatory responses to intensified pressures on
15 consumable resources. To date, this has not happened
16 in Alaska. We can unequivocally show there has been
17 no discernible jump on the curve of increasing resource
18 pressure. True, the median horsepower of riverboat
19 outboard motors on interior Alaska waterways seemed to
20 double overnight, seemingly a result of big pipeline
21 salaries and seemingly poised to drive the new waterborne
22 moose hunters and pike fishermen ever farther and faster
23 into remoter regions of the interior. But harvest
24 statistics so far seem to indicate that this fancy new
25 fleet did much strutting and precious little harvesting
26 of interior Alaska's otherwise beleaguered moose stocks
27 and fish resources. Perhaps the nouveau riche pipelin-
28 ers had time to buy boats, motors, and rifles then, but
29 working six or seven 12-hour shifts didn't give them
30 the time to use these in pursuit of fish and game.

Mossop, Simmons, Stephen, Norton
In Chief

Maybe now we will face a delayed effect in 1976, as work weeks have been cut back to more humane levels, and the high-powered toys are still there. So if you were anticipating straightforward cause-and-effect scenarios from Alaska, I must tell you they are not forthcoming from this biologist. Lots of changes in Alaskan wild-life management have coincided with the construction phase of our pipeline, however. While many of these effects would be difficult to attribute uniquely to the pipeline phenomenon, I wish to concentrate on those which in my view are, if not uniquely attributable, at least strongly implicated. And though you may be surprised when I've done that I see a number of positive potential effects of the pipeline, my view is tentative, short-range analysis and deliberately hopeful. Nevertheless for the record I am not a cheerleader for pipelines; I wish we never had a pipeline thrust upon us, and other things being equal I hope you, as our next door neighbors, can somehow escape having to put up with one.

In analyzing these effects I shall resort to three categories:

- . Institutional effects
- . Philosophical effects, and
- . What I call surprise -- surprising effects on wildlife management.

I should point out for the Inquiry that the following testimony is not a repetition of the content of my article:

"Pipeline surveillance from the inside: Fish &

Monrope, Simmons, Stephen, Norton
In Chief

Wildlife Perspectives,"

which I believe Dr. Lent submitted for the record earlier. However, this testimony builds on and supplements the content of that article. I assume that members of the Inquiry are familiar with the article and I would be prepared to be cross-examined, naturally, on its content.

I shall further submit several items to substantiate points in the following narrative: There is here a list of these items.

Q Perhaps, Dr. Norton, I could advise the Commissioner and the participants that these documents are attached to your evidence and if you would like to do it now or at the end of your evidence you could perhaps briefly capsulize what each of them is.

A I would prefer to do it afterwards and there will be references in text here. They are subsequent to the preparation of what you have before you. I've added several other items which will be^{made} available in the same form. These are a speech by Frank Moolin, who is the senior project engineer for Alyeska Pipeline Service Company dated 18th of February, 1976, together with an Associated Press wire story covering that speech dated 19th February. Also an article in the "Anchorage Sunday Times" of the 4th of April, 1976 on pipeline welds. Also an article in the "Anchorage Sunday Times" of 4th April, 1976^{dealing} with the issue of what is to be done about the pipeline haul road.

Institutionally, the principal result of the pipeline in Alaska has been the implementation of the Joint State/Federal Fish & Wildlife Advisory

Mossop, Simmons, Stephen, Norton
In Chief

1 Team known as JFWAT, or Joint Team for short. This
2 team functions as a unit physically apart from the parent
3 agencies, which are the U.S. Fish & Wildlife Service and
4 the Alaska Department of Fish & Game. The Joint Team
5 under one roof is also separate from the Alaska Pipeline
6 Office and the State Pipeline Co-ordinators Office.

7 Very simply, joint teams such
8 as JFWAT are the best outcome, the cutting edge and
9 the hope of the future that we have been forced to implement
10 primarily in response to the Alaska Pipeline. The
11 advantages of joint teams lie in the blending of local
12 site-specific expertise with wider experience and
13 broader perspectives of the federal type. Combined
14 location and administration of local and federal biolo-
15 gists has proven to be more efficient than running
16 JFWAT through its principal parent agencies -- the
17 Fish & Wildlife Service and the Alaska Department of
18 Fish & Game. Where the stipulations for grant of right-
19 of-way were not adequate to safeguard fish and game
20 resources, JFWAT biologists could apply either state or
21 federal statutes and regulations to cover the loophole.
22 This application of pre-existing state and federal
23 authority has proven to be the most important facet of
24 JFWAT, and therefore our most interesting institutional
25 experience by which to examine effects of the oil pipeline
26 construction on wildlife management. Early on we discovered the
27 relative power of Alaska Statutes Title 16, which
28 statute empowers the Commissioner of Fish & Game to
29 regulate virtually any activity that could alter the
30 physical and chemical environment of fish streams.

Simmons, Mossop, Stephen,
Norton
In Chief

Such regulatory power stems directly from the State Constitution which establishes the state's sovereign power over resident wildlife, regardless of land ownership within the state's boundaries. So, when lease stipulations fell short in their protective powers, title 16 could be applied as a second line of defence, whether the land was federally, state or otherwise owned.

Three situations most commonly gave rise to failure of the stipulations:

1. JFWAT's advices to state or federal pipeline officers are not binding and these officers can in fact ignore or overrule the biologist's best judgement.
2. Lease stipulations simply do not apply to certain pipeline related construction; chiefly, the haul road north of Fairbanks.
3. Time was often too short to go through the advisory memo raindance, or the lease stipulation simply was not adequately stringent in certain cases.

Now, within JFWAT, at first, there was a bit of friendly jealousy, competition, what have you from the federal biologists over the state side of the team's having a weapon in its arsenal that the feds lacked. This competitive spirit was quickly replaced by fuller partnership as soon as the federal biologists discovered their own relatively greater power through the Endangered Species Act and Fish and Wildlife Service Regulations concerning aerial harassment

Simmons, Mossop, Stephen,
Norton,
In Chief

1 of big game to supplement the lease stipulations.
2

3 Joint teams can have a
4 distinct long-term benefit in stimulating the formula-
5 tion of better and more equitable management on either
6 national or local sides. For example, if there is
7 currently no substantial independent territorial
8 prerogative and institutional basis to protect fish
9 and wildlife habitats, perhaps the prospect of territor-
10 ial and CWS biologists having joint jurisdiction over a
11 right-of-way during pipeline construction will nudge the
12 development of territorial responsibility and expertise.

13 A more concrete example
14 is that just now, Alaska statute's title 16 is being
15 rewritten with input from biologists who are thoroughly
16 aware of its imperfections as originally written through
17 applying title 16 on the pipeline. Title 16 needed
18 tightening up in its comprehensiveness and legal
19 terminology, which process is well catalyzed by the
20 federal/state experiences in the last two years.

21 To underscore the point
22 that Alaska looks to increasing use of joint teams in
23 the future, we have taken steps to extend the joint team
24 principle to other activities in Alaska. I am currently
25 involved in managing environmental research on the
26 Alaskan outer Continental Shelf, as one of three state
27 employees working among a vast majority of federal
28 scientists and administrators of the National Oceanic
29 and Atmospheric Administration.

30 Of all the coastal states
with offshore oil prospects, only Alaska so far has

Simmons, Mossop, Stephen,
Norton
In Chief

1
2 committed professionals to work full-time in environ-
3 mental^{assessment} research and application planning. The result
4 is that Alaska now has, in effect, a day to day tracking
5 mechanism on marine environmental research and can
6 continuously articulate its environmental concerns,
7 its research needs and its management priorities to
8 the federal behemoth.

9 I project that much time
10 and money will be saved by this tactic if we can head
11 off future state versus federal litigation actions.

12 Cooperative state/federal
13 management of certain land areas are a fundamental tenet
14 of the state's proposal on national interests or (d) (2)
15 lands now up for public review in Alaska.

16 THE COMMISSIONER: Just
17 pausing a moment Dr. Norton, I think I have been told
18 what that is about, but the (d) (2)^{lands}, do you mind ex-
19 plaining that?

20 A I've been told too
21 and I remain confused. They are part of the provisions
22 of the Alaska Native Claim Settlement Act. They occur,
23 I believe, under a paragraph that has several numbers --
24 17-D-2, so that is their abbreviated designation. They
25 represent what lands are to be withheld from distribution
26 to the public -- or to the private sector, excuse me
27 because of their national importance. The state has its
28 own generated proposal for what to do, which lands to
29 select and how to administer them. There are also
30 several other bills with different proposals for selection
and management.

Simmons, Mossop, Stephen,
Norton
In Chief

1 There were three major short-
2 comings of JFWAT in retrospect, which resulted in the
3 joint teams not having enough authority to carry out all
4 the jobs of which its professionals were quite capable.

5 First, advisory status was a
6 mistake, as hinted above, since the federal and state
7 pipeline offices are not bound to heed biologists
8 concerns. I must conclude that the word "advisory"
9 and downgrading of biological effort to a secondary
10 level of authority was a calculated, deliberate move
11 by the state and federal pipeline offices.

12 JFWAT was prevented from
13 mobilizing as early as it should have to influence,
14 for example, route alignment decisions. The building
15 of the haul road from the Yukon to Prudhoe Bay across
16 the same habitats and drainages as the pipeline, was
17 largely outside the purview of either pipeline office
18 and was well underway by the time JFWAT mobilized.
19 JFWAT should have been fully mobilized by January 1974,
20 rather than six to ten months later, as we had to put up
21 as best we could with some ill-advised design decisions
22 that earlier might have been favorably changed.

23 The third shortcoming, the
24 joint team should have been more broadly mandated to
25 cover air, and especially water quality surveillance.
26 That would best have been accomplished by staffing JFWAT
27 with professionals of the state department of environment-
28 al conservation, federal environmental protection
29 agency and perhaps the U.S. geological survey.

30 I have detailed elsewhere in

Simmons, Mossop, Stephen, Norton
In Chief

1 submissions to the Inquiry how the absence of a joint
2 team approach for water quality and pollutants bill
3 control hampered directly the effects -- the efforts
4 of biologists by tying them down in executing other
5 agencies functions and indirectly damaged the
6 credibility of all environmental protection enterprises
7 along the pipeline.

8 Inasmuch as water quality
9 is an integral concern for habitat protection, it seems
10 logical to put the appropriate professional staff under
11 the direction of biologists, particularly in northern,
12 sparsely inhabited territory where water quality is less
13 of a public health consideration and more a question
14 of habitat quality than it is in more southerly latitudes.

15 In summary, pipeline biologists
16 in Alaska would now favor the extension of the joint
17 team approach to a single environmental and habitat
18 protection office for our pipeline, with authority
19 equal to that of the current state and federal pipeline
20 offices.

21 Now, I am making self-critical
22 and analytical remarks here in hopes that they will
23 be useful to Canadian environmental protection efforts.
24 I am strongly recommending a joint team approach.
25 However, I should caution anybody listening, against
26 viewing this approach as a magic solution or panacea.

27 First, anyone proposing to
28 implement a joint team in northwestern Canada may
29 face objections that you would be adding a new tier
30 of bureaucratic control that will add to the cost of

Simmons, Mossop, Stephen, Norton
In Chief

1 environmental surveillance and construction costs on a
2 pipeline. That objection can be disposed of easily by
3 a cost analysis in the Alaska situation, although
4 advisory status for biologists has reduced the cost
5 effectiveness of JFWAT's efforts.

6 The second cautionary note is
7 that it may be difficult to achieve or recreate the
8 chemistry and togetherness of JFWAT. It is difficult
9 for me to imagine finding the magic combination of
10 personalities, approaches to problems and overall
11 dedication in the same fortunate way that it all came
12 together in Alaska.

13 To illustrate this point, I
14 point out one of the paradoxes in the Alaska surveillance
15 effort.

16 Jim Hemming, the federal
17 supervisor of the federal half of JFWAT is in a line
18 position with the Alaska pipeline office. This means
19 that occasionally, the chain of command on the federal
20 side can box Jim in. For example, he may be specifically
21 uninvited to participate in a decision making meeting
22 with Alyeska by Andy Rollins the head of the federal
23 Alaska pipeline office.

24 Al Carson, the state supervisor,
25 my replacement can, in these situations exercise more
26 leverage with Andy Rollins and APO from outside than
27 Jim can from within. It is an acknowledged fact between
28 Al and Jim, that Al can open doors with the federal
29 machinery for Jim because of his independence, and because
30 Al rises to this form of challenge and confrontation

Simmons, Mossop, Stephen, Norton
In Chief

1 with relish. This little irony works the other way
2 too, as Jim can offer outside leverage with Chuck
3 Champion and the state pipeline coordinators office
4 in Al Carson's behalf, although Jim's approach and
5 psychology are markedly different from Al's.

6 Jim is diplomatic, cautious,
7 highly sensitive to and respectful of lines of authority,
8 In short, these two individuals make an ideal combina-
9 tion as dual heads of JFWAT.

10 THE COMMISSIONER: Dr. Norton,
11 General Rollins is head of the Alaska pipeline office,
12 the federal agency under the Secretary of the Interior,
13 is that --

14 A That's correct.

15 Q Mr. Champion is head of
16 the state pipeline office that administers the
17 appropriate regulations over the right-of-way that
18 belongs to the state.

19 A That's correct. The third
20 caution is about what we came to know as double standard
21 problem or the stab in the back routine. This topic
22 leads gracefully into my next point, that of JFWAT's
23 relations to other agencies. JFWAT is pretty adequately
24 funded and adequately staffed for its job. By comparison
25 with traditional regulatory agencies, they are flush.

26 This iniquity, leads directly
27 to iniquities in application and enforcement of
28 environmental standards.

29 Q Do you mean inequity or
30 iniquity?

Simmons, Mossop, Stephen, Norton
In Chief

1 A Perhaps I need a clarifi-
2 cation for my own use.

3 Q I think you ^{must} mean inequity
4 but I can see that these inequities might be iniquities.

5 (LAUGHTER)

6 A May we replace these
7 questionable words with inequality?

8 Q All right. I think we
9 understand what you mean.

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Mossop, Simmons, Stephen, Norton
In Chief

A The Habitat Protection Section of the regular Alaska Department of Fish & Game has a staff of two professionals for the whole of Alaska north of the Alaska Range. These two biologists have to oversee road-building, stream-related activities, mining, logging, seismic work, offshore drilling, and so on and on over this vast area, while by comparison 30 biologists for JFWAT concentrate their attention in the narrow ribbon of the 800-mile pipeline corridor. Occasionally when some of the projects the Department oversees are within sight of the Alyeska project, Alyeska has screamed, "double standard " because they perceived a contractor or miner getting away with something for which JFWAT would have nailed Alyeska's hide to the wall. It is much to the credit of the overworked regular Habitat Protection Section that these charges never held up because their regulation and enforcement were always good. Unfortunately, other state agencies have given us some more headaches. We worked diligently to keep Alyeska from altering stream banks and the active flood plain close to productive chum salmon spawning grounds on the Tanana River. After a long hard fight, we secured satisfactory design changes from Alyeska in 1974. Now in 1976, I've discovered that the Alaska Department of Highways got away with road construction in this general region of active flood plain and spawning grounds. Now the habitat may not have been damaged, but the appearance of letting a state agency do something Alyeska was not allowed to do damaged our credibility, and JFWAT felt as if Highways

Mossop, Simmons, Stephen, Norton
In Chief

1 had stabbed them in the back. Enforcement of Department
2 of Environmental Conservation regulations and Department
3 of Natural Resources regulations in the Fairbanks
4 vicinity also have been or have appeared to be more
5 lax than similar applications upon the nearby pipeline
6 corridor. It is fair to say that all of these agencies
7 are envious of JFWAT's privileged support level. During
8 my tenure with JFWAT, I spent much time bent over
9 backwards to co-operate with regular state agency
10 offices so that their envy would not ignite into outright
11 jealousy.

12 An over-riding type of jealousy
13 continues to divide the whole surveillance apparatus
14 between biologists and engineers needlessly and counter-
15 productively. An incident on the Tonsina River illus-
16 trates the gulf and professional distrust nicely. As
17 biologists, we were hounded incessantly to come up with
18 hard numbers of fish and caribou, hard evidence that a
19 creek was indeed a fish stream, hard number predictions
20 of exactly how much silt a spawning bed could survive.
21 Judgment was not acceptable to Alyeska or surveillance
22 engineers. These engineers somehow wanted us to whip
23 out a slide rule to produce answers for them. Engineers
24 could always sound so confident and quantitative in their
25 predictions, so damn it, why were the biologists such
26 lazy people, why hesitant to predict, why reliant on
27 such soft data? With much fanfare, speeches, press,
28 photography, ribbon-cutting and expressions of confiden-
29 ce, the first river crossing took place in March 1975
30 at the Tonsina River. The pipe was lowered into the water

Mossop, Simmons, Stephen, Norton
In Chief

1 by a fleet of side booms, and carefully weighted with
2 concrete saddle anchors. No sooner had all the dignita-
3 ries gone home with the project engineer's remark
4 ringing in their ears that Alyeska had come to the
5 river crossing, "not to praise the pipe but to bury it"
6 than the pipe bobbed to the surface as the saddle anchors
7 slipped off one by one, like dominoes. Next morning
8 in a meeting in Chuck Champion's office, several of us
9 JFWAT biologists were laughing heartily over this
10 embarrassment to Alyeska's engineers. After all, we
11 had our predictions so often ridiculed by Alyeska, it
12 was a touch of delicious revenge that we could now
13 point to their fallibility. Erroneously I expected
14 that Champion himself would join in our mirth. He did
15 not. Rather he defended Alyeska and the soundness of
16 the river crossing procedural design, dismissing the
17 mishap as something inconsequential. Chuck Champion
18 was trained as an engineer and in this situation he
19 defended the guild of engineers against the guild of
20 biologists rather than join the laughter as an
21 environmentalist at the expense of industry.

22 The jealousies between
23 engineers and biologist guilds are a serious impediment
24 in Alaska that I would expect to continue in Canada for
25 some time. It was more or less natural in Alaska to
26 create the chief surveillance officers' positions for
27 both state and federal offices as slots for engineers,
28 but perhaps that casual assumption needs close re-
29 examination for future pipeline developments. What
30 is to prevent a biologist or other professional from

Mossop, Simmons, Stephen, Norton
In Chief

1 being an effective chief surveillance officer on pipeline
2 construction?

3 THE COMMISSIONER: Rollins and
4 Champion are both engineers?

5 A That is correct.
6 I want to cover the topic of analysis of do-ability of
7 the job now.

8 THE COMMISSIONER: Excuse me,
9 Dr. Norton, we'll stop for coffee now for a few minutes

10 (PROCEEDINGS ADJOURNED FOR A FEW MINUTES)
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Mossop, Simmons, Stephen, Norton
 In Chief

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

THE COMMISSIONER: We will begin then.

MR. GOUDGE: Q Dr. Norton, would you like to resume at page 11? You were about to embark on the topic, "Do-Ability".

A In December of 1974 JFWAT held a convocation of all its professionals and staff, during which we played a disarmingly simple game popular among management and executive circles, known as "means-ends analysis". The object of the exercise is to sort out what an organization does from why it does it, to prioritize its objectives, and if truly successful, to come up with one super objective to which as many tiers as necessary of sub-objectives clearly relate. JFWAT had been in action six months by then, and I thought it time to find out how many or how few yard-sticks the 30-odd professional biologists, both federal and state, were carrying in their minds by which to gauge the correctness, relevancy and effectiveness of their individual and collective efforts in pipeline surveillance. I was pleasantly surprised to find that within an hour, the group had come up with essentially one statement of overall mission --

"To preserve the viability and productivity of fish and wildlife habitats associated with the pipeline, and to preserve the broadest possible range of management options remaining to others upon completion of JFWAT's role in surveillance."

Discussion dallied essentially only over the wording, not

Mossop, Simmons, Stephen, Norton
In Chief

1 the substance of the statement, and I concluded that
2 this was indeed a healthy organization of dedicated
3 men and women, given that they had so little trouble
4 in articulating a single mission statement. JFWAT is
5 not an office, not a commission, it really is a team.
6 Within other pipeline surveillance offices -- the
7 federal Alaska Pipeline Office, and State Pipeline
8 Co-ordinator's office -- I strongly doubt that such a
9 unified statement could be derived even today. It was
10 no accident that we frequently encountered opposition
11 to our recommendations in the field from the federal
12 or state officers we were supposed to be advising.
13 They seemed to be wearing Alyeska hats in seeking to cut
14 construction costs at the expense of environmental
15 considerations. The real reason lay at the same level
16 as our perception of mission: had either office sat
17 down to define its mission, either would have to face
18 the hard reality that it had two contradictory roles
19 to play, of equal importance to the Department of
20 Interior and State of Alaska. One was protection of
21 the environment through guaranteeing integrity of the
22 pipeline; ^{but} the other was making sure the pipeline was
23 completed on schedule, despite the environmental half
24 of their mission. These missions should somehow be
25 separated in the future because of their conflict.
26 Moreover, advance planning should allow for delays, to
27 wrestle with problems including fish and wildlife habi-
28 tat protection.

29 If there is no programming for
30 unanticipated problems for joint head-scratching by

Mossop, Simmons, Stephen, Norton
In Chief

and
1 environmental construction interests, the biological
2 and environmental concerns will end up ceding all
3 important flexibility in major design elements of a
4 pipeline to the tight construction scheduling mandate
5 of industry.

6 Since I have been critical of
7 the way in which surveillance of the Alaska Pipeline
8 was set up, let me propose another way of allotting
9 the overseeing of pipeline construction in another place
10 or at another time. This scheme uses the same or
11 fewer professionals overall, and avoids the problems
12 of vesting contradictory functions in the same office.
13 To the extent that institutional planning can facilitate
14 the eventual work of surveillance, it may be worthwhile
15 to review several schemes for their suitability to the
16 Canadian situation. The present scheme which I will
17 show in a moment, puts each of the three elements on the
18 same level. Each needs the authority to selectively or
19 completely shut down construction through lease stipula-
20 tions, and to prosecute through state or territorial
21 or federal laws and regulations.

22 Now if I may, I would like that
23 transparency put on. The present situation in Alaska
24 is as follows: The Alaska Pipeline Office, State
25 Pipeline Co-ordinator's Office, JFWAT. Notice that
26 I've indicated a somewhat lower level of authority in
27 the way in which JFWAT operates, in an advisory capacity
28 to the real pipeline offices, and this slash or double
29 slash on each of the major pipeline offices indicates
30 the separateness or the contradictory role between

Montop, Simmons, Stephens, Norton.
In Chief

on one hand the mandate to guarantee the integrity of the pipeline as built, and on the other hand the facilitatory role which each of the two offices must also fulfill to assure completion on schedule which guarantees in the case of the state that oil royalty monies will begin to flow promptly into the almost empty state coffers.

Now I propose that what we need to contemplate collectively across the different systems is the same three basic blocks, only splitting apart the facilitation and the guarantee of pipeline integrity roles such that we would move to a posture of having three joint offices. One would be the facilitation office, joint state or territorial, I assume, as I think about this, as my thoughts continually evolve, that the big job here would be to move through the permitting notice to proceed process, the design review process so that things do move smoothly for a very tight construction scheduling problem. On the other hand there would be a continuing need for the overall, long-haul guarantee of pipeline integrity, and this would be essentially an engineering office, and in the middle, as I've stated in narrative form, there needs to be a joint environmental authority with ^{its} overall mission, the guarantee of maintenance of habitat quality or habitat protection to include once again, air quality and most importantly water quality; and within the joint environmental authority there needs to be a corps of hydrologists, something that we call fisheries engineers, in Alaska, at the command of this

Mossop, Simmons, Stephen, Norton
In Chief

1 unit. That is, I stress, one proposal of many which might
2 be made.

MR. GOUDGE:

3 Perhaps we could mark that
4 overlay as an exhibit, as it forms the subject of this
5 part of Dr. Norton's evidence.

6 THE COMMISSIONER: Right.

7 (OVERLAY OF DR. NORTON MARKED EXHIBIT 538)

8 A Now finally under the
9 heading of "Institutional Effects" I should characterize
10 the JFWAT field surveillance biologists, so that you
11 can draw a comparison between traditional management
12 biologists and this new breed. Although they differ
13 among themselves greatly in styles and backgrounds,
14 the successful surveillance biologists with JFWAT
15 share an uncommonly high degree of dedication and
16 environmental concern. A number of times pipeline
17 laborers and others expressed their bewilderment that
18 JFWAT biologists would work such long hours at compara-
19 tively low paying government jobs. "Do you guys really
20 work for the government?"

21 - Joint Team biologists'
22 educational backgrounds, being mostly the attainment of
23 masters or Ph.D. degrees, had exposed them to original
24 scientific inquiries and the requirement for articulat-
25 ing new findings to others. Perhaps for this reason, we
26 could always rely on our field personnel to have
27 adequate to excellent communications abilities, to be
28 sufficiently assertive in leading discussions and
29 problem-solving sessions with non-biologists, and above
30 all, to exercise good judgment. And in many cases, of

Mossop, Simmons, Stephen, Norton
In Chief

1 confrontation, the element of simple courage becomes
2 important. Resourcefulness and tolerance for the
3 special loneliness of being surrounded by hostile points
4 of view on a day to day basis are also hallmarks of
5 the playing biological "cop behind the billboard" role.

6 On the not-so-pleasant side of
7 the personality profile, JFWAT biologists certainly
8 developed a heightened sense of distrust, or a higher
9 threshold for believing much of what non-biologists
10 wanted them to believe. Moreover, I worried continually
11 about the signs of stress and emotional exhaustion often
12 evidenced by JFWAT field staff. Even now if I chance
13 to meet one of these biologists in transit at the air-
14 port with a duffle bag and cold weather gear, one look
15 at their face and posture usually tells me quite eloquen-
16 tly whether they are on the way out to a 10-day
17 tour or are on the way back to town after such a tour.

Simmons, Mossop, Stephen, Norton
In Chief

1 Unless the returning biologist
2 happened to be flushed with a sense of triumph over a
3 point agreed to by Alyeska, he appeared weighed down
4 by worry and responsibility. Of the four days off
5 every two weeks in a normal surveillance rotation,
6 most biologists reported fretting away the first two
7 days, reliving all their decisions of the just completed
8 tour and worrying that their alternate would keep lids
9 on the critical situations in their absence.

10 On on the third and fourth days
11 of leave could most of them relax and unwind. Despite
12 the frenetic pace, physical strain and a not always
13 cheery won-lost record, a number of JFWAT biologists,
14 myself included, came around to enjoy the challenges of
15 the mammoth project; especially the feeling of being
16 in the forefront of attempting something unprecedented
17 in biological history.

18 In particular, many of us
19 have been quite acutely aware of the potential for
20 influencing patterns and standards that might be adopted
21 for future oil and gas pipeline construction surveillance
22 in Alaska, Canada and elsewhere.

23 The personal stake a number of
24 JFWAT people have invested in their roles is, in short,
25 considerable. I have a vision of a white-haired gentle-
26 men sparing no expense in the year 1995, for example,
27 with a son and grandchild in tow, making^a sentimental
28 small plane landing at one overgrown airstrip on
29 Alaska's North Slope. There, for a few hours or days,
30 the veteran JFWAT biologist would show his lineal

Simmons, Mossop, Stephen, Norton
In Chief

1 descendants some of the streams the world first came to
2 know 20 years earlier through his efforts. He will
3 point out this or that feature of a stream crossing and
4 reminisce about the way he argued with industry for
5 consideration of the stream as a fish stream back in
6 1974. If granddad can see elements of his own design
7 influencing decisions still intact, plus healthy schools
8 of grayling in nearby deeper pools, this will be a
9 moment of great personal satisfaction. I really don't
10 think that this is a very far fetched scenario.

11 Now I'd like to take up a
12 discussion of what I term philosophical effects of and
13 lessons from the Alaskan pipeline construction period.
14 Wildlife management approaches necessarily develop in
15 concert with the ratio of human biomass to wildlife
16 biomass. In vast regions with sparse human populations,
17 management of populations through a regulation of harvest
18 is the approach of choice. With escalation of human
19 resource pressure and management manpower, stock manage-
20 ment is augmented by critical habitat protection and some-
21 what further along in this progression by habitat
22 manipulation.

23 Throughout most of Alaska,
24 the era of critical habitat protection is just beginning.
25 But on the pipeline corridor, it is in full swing.
26 Between August 1974 and December 1975, JFWAT personnel
27 issued some 1500 written directives known as field
28 advisory memos. Of these actions, virtually all dealt
29 with habitat protective measures. About 80% concerned
30 aquatic habitats and only 20 percent or less with

Simmons, Mossop, Stephen, Norton
In Chief

1 terrestrial habitats. Interpretation of these numbers
2 requires some care however. The grand total of 1500
3 permitting actions and non-conformance reports by JFWAT
4 during this 16 month period is an under-estimate of
5 the workload because many minor advices are handled
6 without putting it in writing..

7 The virtual absence of stock
8 management actions derives from two causes; first
9 by mutual agreement with the managing divisions of the
10 Alaska Department of Fish and Game. These divisions
11 are the game division, sport fish division and the
12 commercial fish division. Those divisions were to take
13 on any problems dealing with individual animals.
14 JFWAT for example would undertake to prevent creation
15 of attractive nuisance situations -- garbage and out-
16 right feeding -- but once bears, foxes and wolves
17 actually materialized and had to be dealt with, game
18 division biologists took the responsibility. Or again,
19 cases of aerial harassment of big game, we cheerfully
20 turned over to the US Fish and Wildlife Service for
21 prosecution on regulatory and statutory grounds outside
22 provisions of the right-of-way lease stipulations.

23 A second reason for a lack
24 of stock management activity by JFWAT is that north of
25 the Yukon River, there is a ten mile wide area centered
26 on the pipeline alignment closed to sport fishing and
27 the taking of big game. Moreover, the entire pipeline
28 right-of-way is closed to trespass including camping,
29 hunting and fishing by Alyeska corporate policy.

30 The closure north of the Yukon

Simmons, Mossop, Stephen, Norton
In Chief

1 stems from a 1970 state legislative resolution which
2 directed the Commissioner of Fish and Game to declare
3 such a closed area on the trans-Alaska pipeline system's
4 haul road, at which time -- excuse me -- which at that
5 time, was only complete between Livengood and the Yukon
6 River. That road was accepted by the state, which is
7 to say it became public in 1972, but the legislative
8 intent to prohibit the privileged few from using a
9 private road for hunting and fishing before the public
10 had a crack at it, was transferred north of the Yukon in
11 1974 with the start of haul road construction north of
12 the Yukon.

13 The future status of the haul
14 road north of the Yukon is a subject of current public
15 debate.

16 THE COMMISSIONER: Excuse me
17 Dr. Norton, I'm just orienting myself. You say only
18 complete between Livengood, north to the Yukon; where
19 is Livengood?

20 A Livengood is about half-
21 way between Fairbanks and the Yukon River.

22 Q Oh, right, right, right.
23 From Fairbanks to the Yukon then, is what, 100 miles?

24 A I believe it's about 130
25 miles. Therefore, the TAPS road, built in 1969 was
26 about 60 miles long.

27 Q Yes. Well, your highway
28 system -- the state highway system that predated the
29 pipeline, went from Fairbanks to Livengood then, did it?

30 A Correct.

Simmons, Mossop, Stephen, Norton
In Chief

Q Yes.

A The future status of the haul road north of the Yukon is the subject of current public debate and review by the Alaska Growth Policy Council. Should the state of Alaska take it over as a public road, as it was once widely assumed would be the case, there is the question of whether the state could afford to maintain it. Native and environmental groups are opposed to adding this road north of the Yukon to the highway system largely because of the anticipated dramatic increase in pressure on renewable resources.

Wildlife management in that corridor north of the Yukon is likely to become and remain neither entirely stock management nor habitat management, but essentially access management for the foreseeable future.

So in summary, the pipeline and related activities have advanced the clock in a sense on wildlife management approaches to the stage of primary emphasis on habitat protection within the narrow band across Alaska.

It is likely that, with the growth of the regular habitat protection section of the Department of Fish and Game and with the significant number of JFWAT alumni, a shift in wildlife management approaches will be catalyzed by the pipeline experience in Alaska.

Now preoccupation with habitat protection as opposed to stock management, runs

Simmons, Mossop, Stephen, ~~Barrie~~
In Chief

1 immediately into problems of execution and education
2 on the pipeline scene. Countless times when he grew
3 weary of our continuing objections over certain design
4 features of the pipeline, Chuck Champion wagged a finger
5 in my face saying "You guys have got to realize this
6 pipeline can't be built without killing some fish".
7 Chuck is probably still saying that to JFWAT. "Hung up"
8 is my term for it. Chuck and all the non-biologists
9 along the line tend to be hung-up on the perception of
10 biologists as people out to save every individual fish
11 from an early death at the hands of construction as if
12 in a sense, we should be giving out a quota of hunting
13 or fishing licenses.

14 Hung-up on the image of wildlife
15 managers as stock managers, rather than habitat protectors.
16 Somehow, I doubt that we biologists ever made it clear
17 that we could accept tolerable construction caused
18 mortality, so long as the habitats as the physical and
19 biotic vessels of wildlife production could be maintained
20 or easily recreated in near-original state. This is
21 a problem of education of non-biologists that we might
22 have done a better job with, and the problem that I
23 would anticipate persisting in Canada or any such area
24 where virtually everybody knows enough about wildlife
25 biology to be a self-made expert and therefore, trouble-
26 some.

27 Since the pre-pipeline con-
28 struction background biological studies were inadequately
29 funded for us to learn everything we needed to know about
30 habitats, populations and biological processes, along the

Simmons, Mossop, Stephen, Norton
In Chief

1 pipeline right-of-way, there were many things JFWAT
2 biologist^s learned, particularly about streams and fish
3 at the 11th hour, so to speak.

4 When you can hear the noise of
5 approaching bulldozers and at your feet is a stream
6 that gives every indication of being a productive
7 fish stream, but has never been documented to contain
8 fish, you are in a tough spot if you recommend that the
9 stream be treated as a fish-bearing habitat. The
10 burden of proof of why the industry should bear extra
11 costs of minimizing instream activities and providing
12 drainage structures that are adequate, lies with the
13 biologists. JFWAT has a fairly long list of actions in
14 which biologists made the strongest possible recommenda-
15 tions in the absence of hard evidence, only to have them
16 turned down, and then the evidence came in.

17 However satisfying it is to be
18 proven right in a judgment situation, the "I told
19 you so" routine in JFWAT's history has always indicated
20 a failure of the process of environmental protection.

21 Challenged one day by construction
22 personnel, one of our biologists laid his judgment
23 on the line.

24
25
26
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28
29
30

1 They, meaning industry, had
2 done the expedient thing by laying a piece of 18-inch
3 steel pipe, which was a discarded or unneeded vertical
4 support member, across the work pad construction to pass
5 the flow of a small stream from one side to the other.
6 For the biologist, this was not good enough during the
7 late stages of spring runoff --

13 A They are until they're
14 capped.

16 A Excuse me, yes, they are
17 hollow, they are capped on top when they are placed in.
in question

25 "So you don't think this is
26 a fish stream?" enquired the JFWAT biologist.

28 As he walked over to the outfall end of the pipe,
29 reached down into the pool below and scooped up a
30 stranded 10-inch grayling. "I call it a fish, and there

are lots more like this one which would not be able to make it through that tube to spawn upstream of here during the spawning period."

That incident dramatically ended the discussion and a decent-sized culvert replaced the 18-inch pipe in short order. ~~Accidentally, the creek~~ became known officially as Million Dollar Creek, following charges and counter-charges that a few lousy fish would cause Alyeska to spend a million dollars extra in coddling the environment and environmentalists at this one creek.

There is certainly an unequal burden of proof borne between biologists and construction personnel in our society, and I suspect we have it entirely backwards. Anglo-Saxon law -- check me on this, you of the legal profession -- holds that a person is innocent of an abuse until proven guilty beyond a reasonable doubt. So the would-be user of the environment is smart to figure out what he can reasonably expect to get away with in terms of environmental abuse, and still leave his peers a reasonable doubt as to the unequivocal assigning of guilt in a Court of law. On the other hand, our emerging Anglo-Saxon environmental conscience and awareness that take the forms of the U.S. National Environmental Policy Act of 1969 and give impetus to this impressive Inquiry process seemed to require that the burden of proof be shifted to the user or applicant, or potential ecological wrongdoer. By that, I mean the user is supposed to show beyond a reasonable doubt that he is cognizant of environmental

Mossop, Simmons, Stephen, Norton
In Chief

consequences of his actions and capable of conducting his operation at a low enough level of risk so as to be acceptable to the common good. In some cases, that burden of proof is actually realized as a bond or monetary insurance levy which guarantees the underwriting of cleanup costs following oil spills, for example. But the JFWAT field biologist still confronts the situation where he has to carry the weight, as if he were an accuser or prosecutor in Court rather than something more like a coxswain in a crew shell.

I am submitting to the Inquiry a text of a speech by senior Alyeska project engineer, Frank Moolin, to substantiate the point on burden of proof observations here. ON page 7 of the speech Mr. Moolin said:

"Oil spills. So far we've experienced only industrial spills, no crude oil has been spilled. We've had leaks in several inch and a half ^{diesel} fuel lines in our camps, and several tank trucks ^{have} overturned. We don't like these spills because they're costly to clean up. Frankly, they haven't caused any significant environmental damage."

Now how easy it is for Frank Moolin to make that glib remark. How much more difficult for JFWAT to get away with saying and proving that the biggest spill or leak we've had to date is the Galbraith Lake leak of last summer, did some ecological damage, in fact.

Among the things that consumed more of JFWAT's attention than I would have

Morseop, Simmons, Stephen, Norton
In Chief

1 imagined, the problem of animal feeding was perhaps most
2 frustrating. No amount of educating, warning or
3 threatening seemed to make any dent in the human trait of
4 wanting to feed large carnivores, and secondarily to
5 bring them in close for photography. When the argument
6 that deliberate feeding was bound to create helpless
7 dependants out of wild creatures did not work, we
8 tried to impress workers with the health hazard, parti-
9 cularly from Arctic foxes, of contracting rabies. That
10 approach seemed to have no effect on the rate of feeding
11 incidents either. Meanwhile, Alyeska was enforcing
12 a company policy of firing any worker caught feeding
13 animals, with equally unpromising results. Because union
14 labor agreements prohibited blacklisting, a terminated
15 worker in one camp would be returned to town, yet he
16 could be rehired within hours at another camp. In
17 hindsight, animal feeding should have been made a
18 criminally punishable offense, through regulatory or
19 statutory means. I fault the Department of Fish &
20 Game for not implementing this provision in the early
21 stages of construction. If ^{the Department} had, then the effectiveness
22 of Alyeska's well-intentioned hire/fire policy would
23 not have mattered. Going behind bars is a far more
24 persuasive threat than is the temporary inconvenience of
25 an interrupted wage, free trip to town, and change of
26 scenery to another construction camp.

27 JFWAT essentially has a
28 large problem of getting its story told where it needs
29 to be heard. Appallingly little is known about the
30 good and bad aspects of the Alaska Pipeline surveillance

Mossop, Simmons, Stephen, Notton,
In Chief

picture, outside of very limited circles. The U.S. decision-makers, planners and public critics who should be most analytical of, and influential upon future decisions for future energy transportation options have, I think, largely tuned out the experience on the Alaskan oil line. They believe that the Alaskan environmental concerns were dealt a bad hand with the Senate ratification of the "Spiro Agnew Pipeline." I agree

--

THE COMMISSIONER: This nuance has escaped some of us. Why is that the Spiro Agnew Pipeline?

A When the matter of the go-ahead was taken up in the U.S. Senate --

Q Over-ruling the Courts, is that it?

A Yes, supplanting the Courts, more than over-ruling, the vote was a tie, it was deadlocked, and the procedure at that point is for the vice-president of the United States to cast the tie-breaking vote.

Q That is as presiding officer of the Senate.

A Correct. I agree it was a bad hand, but it is alarming that their analysis -- this is environmental public and agency environmentalists -- that their analysis stops there rather than probing the surveillance experience more deeply to see how much can be salvaged, or how skillfully that bad hand can still be played. I can't escape the

Mossop, Simmons, Stephen, Norton
In Chief

1 feeling that more bad hands will be dealt in this part of
2 North America, but I hope some skilful players
3 will rise to the challenge when that happens.

4 Another possible problem is
5 that biologists who become involved with construction
6 surveillance may be regarded with suspicion by the
7 unsullied and sincere environmentalists who don't
8 get paid to be environmentalists and don't have to
9 face the same issues of construction problems day after
10 day, when it gets down to a choice between two
11 ecologically bad construction options, and realistically
12 the only way out of that box is to select the less
13 evil method, I prefer still to have at least enough
14 say to pick that method.

15 Dealing with the high-speed
16 construction process in this sense is not unlike dealing
17 with a skunk. As long as he faces you there is hope;
18 once he turns his back at close range, hope diminishes.

19 Uncompromised environmentalists
20 just don't do such things as making the best of bad
21 situations, keeping skunks oriented, and pacing bull-
22 dozers at work. That is regarded as something like
23 biostitution. So in summary, JFWAT is having trouble
24 finding an understanding audience to tell what it has
25 learned.

26 A further surprise -- this
27 departs from what you have written in front of you --
28 a further surprise to me was the constant spillage and
29 leakage of refined petroleum products during construction.
30 I refer your attention again to Mr. Moolin's speech,

Mossop, Simmons, Stephen, Norton
In Chief

1 the paragraph which I just quoted , whereas crude
2 oil spills may happen in the future in relation to our
3 pipeline, spills of refined products are an inevitable
4 concomitant of construction. At the risk of overburden-
5 ing your forgiveness for adding new material I would
6 like to quote from an article that appeared in the
7 Alaskan magazine in January of 1976 written by Dan Gross
8 about his experience as a construction worker on the
9 Trans-Alaskan Pipeline. In the middle of the text he
10 says:

11 "Fuel, incidentally, caused my departure from
12 camp. Driving a fuel truck in the winter
13 is a rotten miserable job. For one thing you
14 have those pillows on your hand, rubber pillows
15 on your feet, goose feather ^{pillows} on your back, front
16 top, bottom, you are a pillow and clumsy. It's
17 dark. You can't see the fuel hole without a
18 flashlight, or the level of fuel in the tank,
19 as the high-speed pump pours fuel into it
20 at a gallon a second. The cold saps the strength
21 of the flashlight batteries in minutes, unless
22 the light is turned off. The tank fills up. You
23 can't see and it belches a black geiser of oil
24 at a gallon a second. Clothes drenched, insula-
25 tion gone, you freeze, your face freezes, your
26 hands freeze, diesel gets on your shoe packs,
27 and they dissolve slowly."

Simmons, Mossop, Stephen, Norton
In Chief

Another surprise for me was that industry does not always do things according to revered and understandable principles such as cost effectiveness. There is a lot of complex illogic in the selection of one technology, design feature, or construction method over another -- in large part attributable to inertia, or the comfort of familiarity. Elsewhere I have discussed low water crossings in this regard. That is, part of the record of this Inquiry. Again the article that Dr. Lent submitted. It would have been enormously useful to all surveillance efforts, especially to biologists, to have been forewarned about the complex motivations of industry. At the outset it would have been a help to know what was on Alyeska's menu, then to have had a candid analysis of the kinds of thinking Alyeska and contractors would do in selecting among the alternatives. We might then have shortcut a lot of debate and non-communicative meetings about low water crossings and river training structures. In many stretches where alignment ^{/of the pipeline} required burial of the pipe in active floodplains, Alyeska chose shallow burial and extensive groins and dikes, rather than deep burial without these river training structures. Such structures are particularly unattractive biologically, altering as they are designed to do, the hydrologic will of stream habitats. So we took a very active interest in this design feature and were told in ever so strong language how vastly more expensive deep pipe burial was than shallow burial with river training structures.

When we asked if the

Simmons, Mossop, Stephen, Norton
In Chief

costs of constantly inspecting, maintaining, and replacing dikes, groins, gabions and so forth had been figured in to the cost effectiveness analysis, we got no consistent answer at all. Only after much probing did we get a hint that resorting to river entrainment structures requiring maintenance during the operating life of the pipeline, might be viewed as a tax shelter by Alyeska. The consortium expected a considerable tax write-off in the future through claiming maintenance expenses. Now,

I won't vouch for the accuracy of this analysis but to me it rings true as a perverse kind of cost effectiveness ploy. But curious isn't it that Alyeska could be so far seeing on items like this, when so often, they would inform us with no more than 5 minutes warning that they had for example just discovered the need to have a number of earth scrapers on the opposite side of some fish stream, and would we please issue them a permit to ford that stream?

The last topic I want to touch upon is the matter of authority. Already, we have explored how APO and SPCO are supposed to have authority over environment considerations in pipeline construction, through the lease stipulations. These offices actively downplayed or suppressed any exercise of ecological authority by JFWAT over construction practices, and were acutely uncomfortable at the hint of our exercising Alaska statute's title 16 authority which was clearly beyond their suppression. Be that as it may, I draw your attention to the fact that authority, leverage, or persuasiveness relies on the degree of threat posed to industry when they do not cooperate. The most startling

Simmons, Mossop, Stephen, Norton
In Chief

1 thing about the whole pipeline surveillance process
2 that I have learned since leaving that activity is the
3 steady erosion of environmental leverage that is supposed
4 to be guaranteed through the stipulations. Two major
5 kinds of clout existed in the two pipeline offices:
6 First, they held the power of turning construction
7 through grants of notices-to-proceed, widely known as
8 NTP's. Holdups in these NTP's meant slowdowns and lost
9 time and money. Secondly, they held the power to shut
10 down work on the project.

11 As the number of NTP's
12 remaining to be granted has dwindled, so have APO's and
13 SPCO's leverage with Alyeska. And as the power of
14 shutting down construction has gone unexercised except
15 in extremely circumscribed locations and situations,
16 that has become an emptier and emptier threat. There
17 were a number of junctures when both types of stipulatory
18 authority could have been brought down with great effect.

19 Most notable would have
20 been at some point when the Quality Control Program of
21 Alyeska was first discerned as deficient, and deceitfully
22 deployed so as to hide variances between the execution
23 and the design to hide those variances from the sur-
24 veillance effort. I shall illustrate very simply what
25 Quality Control should be, but is not doing and what
26 this means. Provisions for animal crossings of above-
27 ground sections of pipe were designed into the overall
28 plan with the cooperation of JFWAT. These crossings were
29 generally at a given frequency, and determined by a
30 minimum ground to-bottom-of-pipe clearances, such as

Simmons, Mossop, Stephen, Norton
In Chief

10 feet. Now the checking of what gets built in the field against the blueprint, or specifications, is the job of Alyeska's Quality Control and Quality assurance program. But the near total failure of this effort has consumed JFWAT's time, forcing biologists to do QC (Quality Control) work by measuring these crossings with a tape measure literally for correctness.

JFWAT's function in animal crossings should have been to check that moose and caribou were actually able to get through the crossings as designed and built, without unduly long excursions along the pipeline and work pad. What makes it doubly time-consuming is the shocking non-conformance rates -- and I point to a correction here. I have so far only been able to document 30 to 40% -- the shocking non-conformance rates -- 30 to 40% in many sections. It is now so late in the process of construction that APO and SPCO really cannot undo the damage left by the absence of Quality Control effectiveness. If those offices had acted swiftly and decisively to whip QC into shape, then biologists could have spent more time doing biology rather than measuring pipe clearances, and would not be forced to spend much time insisting on bandaids remedies for damaged habitats such as excavating the work pad to make the clearances meet specifications.

I've made this final point in hopes that the authority mechanisms chosen in future projects will be levers that are just as big on the final day of construction as they were on the first.

MR. GOUDGE: Thank you, Dr.

Simmons, Mossop, Stephen, Norton
In Chief

2 Norton, before you conclude, you have attached to your
4 prepared evidence and it has been filed -- a series of
6 pages that you have referred to in the text. Without, I
8 think reading them, perhaps you could tell us very
10 briefly what each is.

12 A All right. First, is an
14 article by Richard Fineberg in the newspaper detailing
16 the problems JFWAT has had in a specific or two specific
18 stream crossings. And I insert it to illustrate the
20 general nature of JFWAT's concerns and the problem of
22 dealing with the construction process particularly at
24 stream crossings.

26 The next is a letter I
28 wrote to Dr. Pat Wennekens of the Alaska Department of
30 Fish and Game. I'll insert it because I wanted to illustrate
32 that the nature of planning for a joint team approach
34 runs into some opposition even with good biologists and
36 the point that I made about the threat of adding yet
38 another tier of bureaucracy.

40 The last submission that
42 you have before you is a letter with attached notes
44 resulting from a trip I made to Calgary at the invitation
46 of Foothills Pipe ^{Lines} to discuss many of the experiences
48 in my narrative form here. I will further ask that the
50 address I referred to made by the senior project
52 engineer, Frank Moolin and the Associated Press reporting
54 of that address be made part of the record.

56 Q Yes, sir, we can do that
58 as part of what has been tabled for you previously.

Simmons, Mossop, Stephen, ~~Norton~~
In Chief

THE COMMISSIONER: Perhaps ^{as well} we

can have the article by Dan Gross in the Alaska Magazine.
All of those will be marked as exhibits.

A I have -- I'm not quite
finished but what else is on your menu here? A short
article on the problems surrounding field wells. Many
of these have been found to be deficient will have to
be dug up and redone. Chuck Champion had the ear of
the press over this past weekend, I guess, and he
explains the revenue implications of having to do that--
do things over again correctly after they have been
botched the first time.

Next, to illustrate the
point about the uncertain status of the Yukon to
Prudhoe Bay haul road, I have an article outlining one
person's view and just to document the fact that it's a
very uncertain situation, very much up for public review.

And lastly a Dan Gross
article in the Alaskan Magazine of January, 1976 of
which I have quoted a paragraph.

MR. GOUDGE: I ask that all
of those be marked, sir, as an exhibit or as separate
exhibits. Thank you very much, Dr. Norton. This panel
is available for cross-examination, Mr. Commissioner.
Perhaps we could begin with Mr. Bell.

Simmons, Mossop, Stephen, Norton
In Chief

1 MR. CARTER: Sir, I'm not
2 quite ready yet to commence cross-examination. I prefer
3 to wait till after lunch.

4 MR. HOLLINGWORTH: Mr. Commission-
5 er, I was going to make a suggestion just before cross-
6 examination started. We've had a few extra appendices
7 to Dr. Norton's evidence talked about today. I personal-
8 ly haven't seen any of them and I doubt that any of
9 the other participants have, and I was wondering if we
10 might prevail upon Mr. Goudge to provide us with copies
11 now and possibly -- possibly I could seek some advice
12 over an extended lunch hour from Calgary and perhaps
13 we wouldn't have to get Dr. Norton back at a later date
14 because as of now, I simply don't know whether I'll have
15 questions on it or not.

16 THE COMMISSIONER: What time
17 is it?

18 MR. GOUDGE: It's now noon
19 sir and let me say this. First of all, we'd be happy
20 to provide photocopies of the material that was not
21 attached ^{to} Dr. Norton's prepared evidence. We can do that
22 today. I've had it indicated to me by other counsel
23 sir that they will be asking that Dr. Norton be recalled
24 at a later date, in any event. So, we will have to, I
25 think, prevail on Dr. Norton's good graces to return
26 at a later date for that reason. I'm in your hands sir
27 as to --

28 THE COMMISSIONER: Well, maybe
29 Miss Hutchinson could photostat those exhibits now.
30 There's a machine in this building somewhere, isn't there?

~~Simmons~~, Mossop, Stephen, Norton
Cross-Exam by Bell

1 Who's ever ready to cross-examine could begin. Mr.
2 Bayly's always ready, I know and Mr. Bell, always
3 ready too.

4 MR. GOUDGE: Mr. Bell I think
5 is ready sir.

6 CROSS-EXAMINATION BY MR. BELL:

7 Q I just have one area and
8 it's for Dr. Simmons. I'd like to ask you Dr. Simmons
9 if the Fish and Wildlife Service keeps the records
10 relating to land use and resource harvesting by native
11 people.

12 WITNESS SIMMONS: Would you
13 repeat that please?

14 Q Yes, does the Fish and
15 Wildlife Service keep records relating to land use
16 and resource harvesting by native people.

17 A Yes, we do.

18 Q Can you tell me, in your
19 opinion, do these data represent an accurate picture
20 of the present state of land use by native people in
21 the Mackenzie District?

22 A Probably, it is deficient.

23 Q Would you say that the
24 amount and extent of native land use is understated
25 by these data?

26 A Say it again?

27 Q Would you say that the
28 amount and extent of native land use is understated
29 by these data?

30 A Is understated?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bell
Cross-Exam by Hollingworth
Q Yes.

2 A Land use, yes.

3 Q Do you want to add anything
4 else?

5 A No. Our records, I believe
6 are mainly to say trapping records showing where a
7 registered trapline is, showing roughly what the harvest
8 is -- the fur harvest is; showing where hunting takes
9 place when we have some input into the hunting effort.
10 So that's why I say that our records may be deficient
11 in this area and and I would, if I were asked to produce
12 a record of native land use, I would probably go to the
13 native organizations themselves who have been compiling
14 this data.

15 MR. BELL: Fine, thank you very
16 much.

17 MR. HOLLINGWORTH: It seems to
18 be a request that I proceed next, Mr. Commissioner,
19 which is fine with me.

20 CROSS-EXAMINATION BY MR. HOLLINGWORTH:

21 Q Mr. Mossop, if I could
22 start with you, on page 15 of your prepared testimony,
23 in the last paragraph, you speak of monitoring wildlife
24 populations during construction. I wonder if your --
25 you or your agency have formulated methods of monitoring
26 populations. How would you carry these operations out?

27 WITNESS MOSSOP: I would have
28 to answer in the negative. I've indicated elsewhere in
29 the testimony that we are not in a position to devise
30 management procedures in the northern Yukon and monitoring

Simmons, Mossop, Stephen, Norton
Cross-Exam by Hollingworth

1 wildlife populations is a management procedure. So,
2 the answer is that there's nothing really sophisticated
3 from a wildlife biologist's point of view in carrying
4 out what I'm talking about here, but the actual process
5 that will be involved is not final.

6 Q Would you propose to
7 continue this monitoring after the construction phase?

8 A Not to the same intensity,
9 but the answer to that is yes.

10 Q Now, on the next page;
11 page 16, of your prepared testimony at the top of the
12 page, you talk about a liaison with the regulatory
13 authority of the company. Have you formulated a system
14 of liaison as to what levels it would be on and with
15 which officials in the company?

16 A No.

17 Q So you don't know for
18 instance if it would be at the field level or at
19 management level or at regular/scheduled meetings or anything
20 of that nature?

21 A No, I would imagine it
22 would be both.

23 Q But you're just not
24 clear in your thinking at this stage?

25 A That's right.

26 Q All right. A general
27 matter, you refer to the applicant throughout your
28 testimony. Since you're a representative of the Yukon
29 government, I take it that you mean Canadian Arctic Gas
30 in all references when you say "applicant"?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Hollingworth

1 A That's correct yes.

2 Q On page nine of your
3 testimony, in the second complete paragraph, you offer
4 the opinion that pipeline access routes, airstrips,
5 buildings and what not will permit access to northern
6 areas and that seems to be a personal opinion of yours.
7 You then state in the second sentence:

8 "We also submit, based on our experience that these
9 facilities will be used by increasing numbers of
10 people and that restrictions on their use will
11 never be realized."

12 You change from the singular to plural there. I was
13 just wondering who "we" was?

14 A I think I could safely
15 change the pronoun to the first sentence to read "we"
16 also. The text of this testimony has been read and
17 approved by our director.

18 Q So this entire paragraph
19 incorporates the views of your agency.

20 A That's correct.

21 THE COMMISSIONER: That is by
22 the director of the Territorial Game Branch?

23 A That's correct, yes.

24 MR. HOLLINGWORTH: Dr. Simmons,
25 you're probably aware that the Foothills proposal in-
26 corporates lateral systems to supply communities such as
27 Rae, Yellowknife, Pine Point and Hay River, among others
28 off the main line of the pipeline. Are you aware of that?

29 WITNESS SIMMONS: Yes, I was.

30 Q In the area of that

Simmons, Mossop, Stephen, Norton
Cross-Exam by Hollingworth

1 Yellowknife, Pine Point lateral system, it's my under-
2 standing that you've conducted some surveys at least of
3 animal populations and I'm thinking particularly of
4 bison on the north side of the lake?

5 A Yes, we have.

6 Q Have you been conducting
7 other surveys in this area recently on other animals?
8 That is to say, in the area that would be traversed by
9 the Yellowknife, Pine Point lateral?

10 A Other than our bison
11 research, I don't believe we have been.

12 Q Is there any contemplated
13 in the near future?

14 A No.

15 Q Now sir, on page 16 of
16 your evidence, -- I guess it must have been the draft,
17 my notes are premised on your draft being the same as
18 your final copy and the same ^{with} you, Dr. Stephen, I presume
19 that that's the case. Just let me see if I can correlate
20 your draft here; final copy. Well perhaps it's not
21 important anyway. The reference is to a monitoring
22 role by your agency and I would ask you sir, what sort
23 of monitoring role you would foresee?

24 A Like David, I can't comment
25 in detail on that, since we have ^{not} included this in our
26 planning process yet. During the Mackenzie Valley --
27 I mean during the planning exercise that we're going
28 through right now in the delta, we will consider levels
29 of monitoring and so forth, but as yet, we haven't.

30 Q Have you formulated any

Simmons, Mossop, Stephen, Norton
Cross-Exam by Hollingworth

1 plans on coordination of your activities with those of
2 any federal agencies and with the pipeline company?

3 A We have recognized the
4 necessity of coordination but we have no plan right
5 now on how this will be carried out.

6 Q So once again, my question
7 as to what level this would be on that I directed to
8 Mr. Mossop, if I directed it to you, your answer would
9 be that you haven't formulated such plans?

10 A That's right and we are,
11 the Territorial and Federal Governments, are engaged in
12 a planning exercise which might determine what type
13 of coordination will govern the pipeline construction
14 and operation and so it would be premature right now
15 I think for us to make detailed plans on this.

16 Q Has the Fish and Wildlife
17 Service reached any position on the control of hunting,
18 fishing and trapping by pipeline workers?

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Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

1 A It's our opinion now that
2 pipeline workers should be treated differently from
3 the residents of the Northwest Territories ^{that} in/they should
4 not be permitted to hunt, fish or trap while they are
5 here on the pipeline construction project.

6 Q Have you given any
7 thought to a buffer zone that was instituted in Alaska
8 on the Alyeska project?

9 A Yes, we have, but again
10 this is part of the planning process which is merely
11 in its embryonic stages.

12 Q So that as far as what
13 the pipeline company could do, your suggestion, I take
14 it, would be to do everything in its power to prevent
15 hunting, fishing and trapping by any of its workers.

16 A Yes, and of course we
17 have the option of re-zoning the area that parallels
18 the pipeline, and includes the corridor. We could re-zone
19 it so that hunting would not be permitted, by pipeline
20 workers, except that there is one thing clouding this
21 issue and that is that I imagine a percentage of the
22 pipeline workers would be native, general hunting
23 licence holders, and in this case we could not prohibit
24 the hunting, fishing or trapping of employees unless it
25 was company policy.

26 Q Do you think it would be
27 more expedient to prohibit pipeline workers generally
28 from hunting and trapping and fishing, or would it
29 be more expedient to change the governing statute in
30 such a way that although pipeline workers would be

Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

1 perfectly free to apply for a hunting and fishing
2 licence, the law would be drawn in such a way that
3 they wouldn't be able to be issued with one unless they
4 meet certain standards, such as the native workers?

5 A I'm afraid I haven't
6 given --

7 THE COMMISSIONER: What is the
8 standard? Race?

9 A Excuse me, sir?

10 Q I don't quite follow this,
11 Mr. Hollingworth, meeting the standards of the native--

12 MR. HOLLINGWORTH: Perhaps
13 I could rephrase it. Dr. Simmons raised a possibility
14 of some doubt on total prohibition of pipeline workers
15 hunting or fishing because some of the workers would be
16 natives who hold general hunting licences, I believe
17 you called it.

18 A Yes.

19 Q And I wondered if you
20 didn't have two approaches to this, you could have a
21 total prohibition by the pipeline company on any
22 activities to do with hunting or fishing, or you could
23 have a situation where it was essentially regulated
24 by your agency in that these people would be free to
25 apply for licences but the governing statute would be
26 drawn in such a way that certain of the pipeline workers
27 simply wouldn't be able to be issued with them.

28 A Because of residency or
29 something else.

30 Q Because of residency ,

Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

1 because of race, if a statute could be drawn in such a
2 way. I'm not commenting on the fairness of it.

3 A I wonder if both systems
4 couldn't be brought to bear upon this thing where we and
5 the company would see to it that an undue pressure was
6 not brought to bear upon the resource as a result of
7 the construction.

8 Q Oh, I'm sure both systems
9 could be, sir. I just wondered what your views were
10 at the optimum method.

11 A I would opt for the
12 combination that I ^{just} /described. It's rather a complex
13 situation and I think I should perhaps give it a lot
14 more thought than I'm able to right now.

15 Q Mr. Mossop, have you
16 been able to -- or has your service been able to conduct
17 surveys along the route of the Alaska Highway than it
18 has along the North Slope of the Yukon?

19 WITNESS MOSSOP: I would say
20 definitely yes.

21 Q I'm sorry?

22 A Yes.

23 Q Are you able to comment
24 on the relative environmental merits from the basis
25 of the matters that you handle of an Alaska Highway
26 corridor for pipeline construction and operation as
27 opposed to ^{one} /across the North Slope?

28 A Well, the kinds of field
29 investigations that managing agencies like the Yukon
30 Territorial Game Branch ^{carry out,} / as I'm sure you understand, are

Mossop, ~~Simmons~~, Stephen, Norton
Cross-Exam by Hollingworth

1 not designed for measuring impacts. So at this point
2 I'd have to answer in the negative, no, we couldn't --

3 Q well, that's true, but
4 did
5 in your testimony you/comment on opening access to
6 certain areas of the Yukon with what you viewed as
7 detrimental results. It's fair to say that the
8 route along the Alaska Highway is wide open now, isn't
9 it?

10 A That one aspect of
11 the construction would not apply, but of course I
12 would have to know exactly what would be involved in
13 building the pipeline along the highway.

14 Q Well, let's just view it
15 from the terms of access to the public at large after
16 construction had finished, which is what you were
17 directing your evidence to, as I understand it.

18 A That's one problem that
19 would be alleviated.

20 Q I beg your pardon?

21 A That one problem would
22 be largely alleviated.

23 Q By using the Alaska
24 Highway?

25 A That's right.

26 MR. HOLLINGWORTH: Mr. Commis-
27 sioner, I wanted to go onto Mr. Stephen at this time,
28 but unfortunately my cross-examination notes relate
29 to the first draft of evidence I got from him. We were
30 presented with a final draft yesterday and I have not
yet correlated it. I wonder if we could possibly break

Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

1 at this time and I'll work on it?

2 THE COMMISSIONER: O.K., we'll
3 adjourn until two. Just before we do, I think our
4 proposed schedule for next week shows us sitting on
5 Saturday. I don't see any reason to sit on Saturday,
6 so unless counsel get together and ^{enough} Mr. Goudge urge that
7 we sit right through to and including Saturday, we'll
8 only sit until Friday.

9 I can't be here this coming
10 Monday so we will resume our hearings next week on
11 Tuesday at one o'clock. I should think that by Tuesday
12 at one o'clock next week when we resume ^{hearings} / we will be into
13 Phase 4 officially and Mr. Goudge, just in case they
14 aren't being kept up to date, on an hourly footing
15 you might let Mr. Sigler know, who I believe will want
16 to appear throughout Phase 4 on behalf of the Association
17 of Municipalities.

18 I think Mr. Reesor of the
19 Chamber of Commerce will probably want to sit in too.
20 I'm not urging that he be seated as counsel or that he
21 ask /any questions, but certainly we'd welcome his presence.

22 Well, we'll adjourn until two
23 then.

24 (PROCEEDINGS ADJOURNED TO 2 P.M.)
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Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

THE COMMISSIONER: All right.
me

I have something in front of me that says "Pipeline Panic",
so --

MR. CARTER: Mr. Commissioner,
if I could take a moment . There is a portion of the
transcript, and it's found at page 15099 dealing with
an archaeologist, Dr. Jacques Cinq-mars. Mr. Hemstock
asked that I correct a statement made in there about the
relationship of Dr. Cinq-mars to Arctic Gas. Mr. Scott
was cross-examining Mr. Hemstock and in the course of
his question he stated that Mr. Cinq-mars was working for
Arctic Gas. Mr. Hemstock didn't correct that impression;
in fact Arctic Gas provided a grant in aid of research
to the University of Toronto for their Northern Yukon
research program, and this program was under the direc-
tion of Dr. William Irving, whom you will recall gave
evidence at Old Crow and Dr. Jacques Cinq-mars is the
assistant head of the project. So he wasn't, properly
speaking, working for Arctic Gas directly.

I am advised by Mr. Hemstock
that their report arising out of that research program
is currently being prepared and once it is completed
we'll be filing that with the Inquiry.

THE COMMISSIONER: Thank you,
Mr. Carter.

MR. GOUDGE: Two other matters,
sir, before Mr. Hollingworth continues. We have a list
of government reports and studies relating to matters
before this Inquiry, Supplement 2 dated February 1976,

Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

1 that we would propose to file. As well, Dr. Norton this
2 morning referred to an article of his own entitled:

3 "Pipeline Surveillance from the Inside."

4 Just to make sure whether or not it was filed earlier,
5 we would propose to have it duplicated and give it to
6 Miss Hutchinson, and if it hasn't been filed previously
7 we would ask that it be filed now. We'll distribute
8 copies of it to the participants.

9 ("PIPELINE PANIC" ARTICLE BY DAN GROSS, JANUARY
10 1976 MARKED EXHIBIT 539)

11 (CLIPPING FROM ANCHORAGE TIMES, APRIL 4, 1976
12 RE HAUL ROADS MARKED EXHIBIT 540)

13 (CLIPPING FROM ANCHORAGE TIMES, APRIL 4, 1976
14 RE PIPELINE WELDS MARKED EXHIBIT 541)

15 (ADDRESS BY F.P. MOOLIN, FEBRUARY 18, 1976
16 MARKED EXHIBIT 542)

17 (LIST OF GOVERNMENT REPORTS & STUDIES, SUPPLEMENT
18 2, FEBRUARY 1976 MARKED EXHIBIT 543)

19 ("PIPELINE SURVEILLANCE FROM THE INSIDE" by
20 D.W. NORTON MARKED EXHIBIT 544)

21 MR. HOLLINGWORTH: Q Dr.

22 Stephen, your prepared testimony is somewhat altered
23 from the draft that was earlier distributed, and there
24 seems to be no comment in your evidence presented to
25 the Inquiry about the role of the Wildlife Service during
26 the construction phase of the pipeline, and I wonder
27 if the Service has addressed itself to this period of
28 time, and what its role will be?

29 WITNESS STEPHEN: Yes, we have.

30 It would be part of a role played by Environment Canada.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

1 I fully expect that a monitoring program of some kind
2 will be designed. If the Wildlife Service is called
3 upon to do it, our approach would be -- or to take part
4 in that -- our approach would be to set up experimental
5 and control plots or samples. Fisheries and marine,
6 for example, as part of Service as part of Environment
7 Canada, I'm sure would be interested in that
8 thing. It would probably be done under the auspices of
9 the Western & Northern Regional Board, which is
10 a co-ordinating mechanism for Environment Canada.

11 Q Would you see your
12 participation through Environment Canada as part of the
13 super agency, that has been --

14 A Well--

15 Q -- or would you prefer
16 a more independent role?

17 A -- my haste to break in
18 there is to emphasize that the Wildlife Service does
19 not play a prominent role in Environment Canada. It's
20 one of the smaller agencies compared to Fisheries, for
21 example, and totally a mess. Environment management
22 services across the country have about 3,000 employees.
23 The Canadian Wildlife Service has 300, nationally.

24 Q All right, in your plans
25 which -- sorry.

26 A We developed what is called
27 a lead agency concept, and a lead agency then provides
28 the leadership to a project or a program with a series
29 of projects, of which the Wildlife Service may have
30 one or two.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Hollingworth

1 It's similar to the Mackenzie Valley Pipeline studies
2 that Environment Canada did along with Energy, Mines &
3 Resources and others.

4 Q All right. Have you given
5 any thought to what level liaison with industry would
6 take place?

7 A I think it would have
8 to take place at several levels. There would have to
9 be communication at the field level, on-site there
10 would have to be communication at the managerial level,
11 there would have to be communication at the executive
12 level.

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1 Q Now, we have heard from Dr.
2 Norton today that there was criticism on the Alyeska
3 project from engineers who weren't getting hard figures
4 from the biologists and that it was a personal judgment
5 call in some cases that the biologists were making that
6 they were asking the engineers to rely upon. Would you
7 want the same sort of standards to prevail on a pipeline
8 project?

9 A Well, the Canadian Wildlife
10 Service policy and particularly mine, is to be as
11 quantitative as possible, ^{and} to attempt to put confidence
12 limits on any data that we have, particularly data that's
13 going to be perhaps contentious.

14 Q If possible, would you
15 like to see this embodied in regulations then, rather
16 than just the judgment of a man on the field?

17 A The embodiment in
18 regulations for --

19 Q Certain standards to
20 protect the wildlife.

21 A Yes, and we do that
22 now to a certain extent with our sanctuary permit
23 regulations.

24 Q You regard this as
25 superior to a judgment call by a man in the field or
26 by even a, say a pipeline proponent's own standards.

27 A Yes. It provides a
28 mechanism for arguments that might end up in Court and
29 we often have to err on the side of caution and our
30 attempt is to refine that so that there's least

Simmons, Mossop, Stephen, Norton
Cross-Exam by Hollingworth

1 restriction on the behavior and activities of any
2 taxpayer.

3 Q Have you come to any
4 conclusions as to how many inspectors the CWS might
5 have on the pipeline project, if any?

6 A No, we haven't precisely.
7 The reason being that it's our understanding that
8 most of the construction activity will take place in
9 the wintertime and we would be concerned about destruction
10 of any migratory bird habitat that might occur at that
11 time. Our major concern might be summer activity such
12 as staging operations and things of that sort, so that
13 we might be able to handle that with a beefed up
14 enforcement coordinators and we would probably go the
15 route of attempting to train R.C.M. police and hopefully
16 look to the Northwest Territories Fish and Wildlife
17 Service for cooperation in that regard.

18 The Department of Indian
19 Affairs and Northern Development also has, as you know,
20 land use inspectors, of much larger field force than
21 we have and they could also be used.

22 Q So, would it be fair to
23 say that your thoughts at this time would be to have
24 a person with a fairly general education in the concerns
25 that the Canadian Wildlife Service has, who would be in a
26 lot of places and who could then transmit any of his
27 concerns back to a central office where the experts are?

28 A That's the way it happens
29 now.

30 Q That's the way you'd like

Simmons, Mossop, Stephen, Norton
Cross-Exam by Hollingworth
Cross-Exam by Veale

1 to see it continue?

2 A More or less.

3 MR. HOLLINGWORTH: O.K., I
4 have no further questions of the three panel members
5 to my left, and Mr. Commissioner the questions I might
6 have for Dr. Norton, I'd like to defer at this time
7 since I understand it's the wish of some participants
8 that he come back in any event. We did just receive
9 his evidence yesterday and some further evidence today,
10 so I'd like time to digest it.

11 THE COMMISSIONER: Fine.

12 MR. GOUDGE: Mr. Veale is
13 next sir.

14 CROSS-EXAMINATION BY MR. VEALE:

15 Q Mr. Mossop, I would like
16 to ask you some questions about the Porcupine caribou
17 herd in the Dempster highway and perhaps you could tell
18 us the start-up date of construction of the Dempster
19 highway and when a problem or a possible impact problem
20 with the caribou herd arose?

21 WITNESS MOSSOP: As a matter
22 of fact, I can't tell you the exact beginning of
23 construction of the Dempster highway. Perhaps somebody
24 else has that information. The end of the highway
25 stagnated for a number of years at approximately the
26 forty to fifty mile stage and at that point, the highway
27 in essence entered the range of the Porcupine caribou
28 herd to its border. In essence, the construction from
29 that point on is the construction which you could
30 presumably say interfered with the range of the Porcupine

Simmons, Mossop, Stephen, Norton
Cross-Exam by Veale

1 caribou herd. So, in the year -- I think you can
2 correct ^{me} if I'm wrong, I think it was '72, the highway
3 reached the Oglivie River and that was the first year
4 when it became evident to the public; biologists had been
5 talking about this already for some years, but it
6 became widely discussed that the highway was obviously
7 interacting with the herd because the herd at that
8 year rutted right on the highway; a very large herd.

9 So, that's about when it
10 started.

Mossey, Simmons, Stephen, Norton
Cross-Exam by Veale

1 Q Now, in 1972 was the
2 Porcupine caribou herd within the jurisdiction of the
3 Yukon Game Branch at that time?

4 A I would say so, yes.

5 Q But you were in fact then
6 active in a monitoring role.

7 A Oh, I see, you're not
8 talking about a jurisdictional --

9 Q Well, basically I under-
10 stand that at some point the Canadian Wildlife Service
11 had involvement, and then that was phased out and --

12 A Canadian Wildlife Service
13 was involved with the Porcupine caribou interference
14 with the Dempster Highway, ^{for} I believe that one year.
15 I can be corrected on that. Elmer DeBock was on that
16 site making observations in '72 when the herd was
17 rutting near the highway. The Yukon Game Branch became
18 active, I believe, in '73 in a co-operative program
19 with the Canadian Wildlife Service in trying to in
20 essence monitor harvest at the highway. In '74 the
21 Game Branch carried on this very small program of
22 trying to measure harvest, which in essence has
23 continued to date.

24 Q Well, has the research
25 that has been done ^{to date} by the Game Branch been adequate
26 in terms of the wildlife management function?

27 A No, I'd have to say
28 definitely not. As I've already indicated in
29 testimony, I think I called our efforts desperate.
30 We have virtually no management information outside of

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 the very small amount that the Canadian Wildlife Service
2 was able to gather in that one year relative to
3 the Dempster Highway. The management schemes
4 that we implemented were done in a vacuum, if you like.
5 The corridor concept to allow caribou to cross in a
6 certain section didn't seem to work. Following that we
7 tried closing the entire road and the point is, of
8 course, as I've already stated, five years have gone
9 by and this very important question remains unanswered.

10 Q Now I understand that
11 construction of the Dempster Highway is now or this
12 spring going to proceed north of the Eagle River, and
13 in your evidence you^{have} indicated that there will be a
14 Game Branch biologist who will be on-site during that
15 construction. Is that correct?

16 A That's correct, yes.

17 Q What will the role of
18 the biologist be?

19 A The role of the biologist
20 on-site is a bit of a moot point. At the present the
21 original land use permit stated to the contractor for
22 the next contract of the Dempster, made it mandatory
23 that the contractor supply room and housing and stated
24 to the effect that instruction from the Game Branch
25 person would -- was to be honored by the contractor.
26 There has been some discussion since that point that
27 the role of this person on the site will be strictly
28 as a monitor, which is really what we had envisioned
29 in the first place. The idea is to try to get at this
30 /^{basic} question of what happens to caribou herds when they

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 encounter activity is a question that's been before this
2 Inquiry, it's a question that has national implications,
3 I suppose, and one that we haven't answered. The Game
4 Branch, which I've already described, is an extremely
5 small and inadequate operation at best, is now going
6 to try to make its best effort at coming to grips with
7 this problem. I think what you're trying to get at is
8 whether the person on the site is going to have any
9 authority over the operation, and it looks like he
10 probably isn't going to.

11 Q I see. Well, the fact
12 that there will be a Game Branch biologist there, do
13 you feel that that is enough, or an adequate response
14 to the problems that the Dempster Highway has presented
15 with the caribou herd, to arrive at a meaningful
16 wildlife management recommendation?

17 A Well, (a) it's the
18 only response we can make and I think in terms what
19 the Yukon Game Branch can do, it's rather heroic in
20 the sense that we only have two biologists on staff.
21 Next year we will have five, and one of these will
22 be dedicated to this program.

23 In terms of the question that
24 we're asking, it's certainly inadequate. In terms of
25 the consequences of construction, two large herds like
26 the Porcupine herd, it would seem inadequate. I
27 could envision a very large program with several person
28 involved with a large budget to answer such an important
29 question.

30 Q Well, is that in your

Mossop, Simmons, Stephen, Norton,
 Cross-Exam by Veale

1 opinion what is required?

2 A In my personal opinion
 3 it would be required, it's advisable certainly.

4 Q You mentioned the figure,
 5 I think, in your evidence of \$1 million, which I
 6 think included a research function. Now is that the kind
 7 of figure that you're talking about ^{in order} to conduct a study
 8 of that nature?

9 A To do this one study?

10 Q Yes.

11 A Oh no, a study of the
 12 magnitude that I indicated wouldn't run anything like that.
 13 I really can't give you a figure off the top of my head.
 14 I'd have to think about it.

15 Q O.K., the area that this
 16 biologist is going to be on, is that a particularly
 17 significant area, that north of the Eagle River in terms
 18 of the Porcupine caribou herd?

19 A It's significant, I
 20 suppose, in terms of the data which we have. The problem
 21 of the Dempster Highway is that it was built across
 22 presumably the wintering range of the Porcupine caribou
 23 herd, and we're into this problem again of hard
 24 data. It's very difficult to prove the caribou actually
 25 used to cross the Dempster Highway where they don't
 26 do it any more. The proposed route of the Dempster
 27 between the Eagle River and the Northwest Territories
 28 border, mostly because it was last to construct, has
 29 the best data, and this area has been used consistently
 30 over the period of studies, beginning approximately in

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 1970, as a migration route. As a matter of fact, last
2 winter the herd wintered right on that site, the end
3 of the Dempster Highway. I shouldn't say "the herd",
4 a segment, a sizeable segment of the herd wintered
5 there.

6 Q The highway is presently
7 open to a hunting season for hunting the caribou. Would
8 you recommend ^{that} that highway be closed to hunting?

9 A I wouldn't be the first.
10 I think I could honestly say "Yes, I would."

11 THE COMMISSIONER: Absolutely.
12 Opposed absolutely. No exceptions, no persons entitled
13 to infringe that.

14 A I think there's such a
15 gap in our knowledge, as I've already indicated, a
16 really important gap in our knowledge regarding why--
17 the mechanism. We know that when, as I've already
18 indicated, when roads are built in the Yukon Territory
19 hunting experiences a bit of a boom and then the
20 populations of wildlife disappear, and we have to know
21 why. The Dempster is a special case so I wouldn't say
22 there could never be hunting on the Dempster Highway,
23 but with that gap in our knowledge a moratorium on
24 hunting on the Dempster Highway would seem advisable.

25 Q Would that mean - I'm
26 curious about that -- that people travelling north,
27 let's suppose this highway were completed to Fort
28 McPherson and then beyond to -- well, it is complete
29 from there -- so that people started to move along the
30 highway. How could you enforce that? Suppose people had

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 rifles and you had a check point at Dawson City or
2 somewhere, what do you do? You can't survey their
3 activities over the next 500 miles until they get to
4 McPherson?

Simmons, Mossop,
Stephen, Norton
Cross-Exam by Veale

1
2 A I think enforcement isn't
3 really my bag, but a common, you know, there's a couple
4 assumptions. (a) is that if people shoot something, then
5 they're going to bring it home and on the cheapest way
6 to patrol a large road like the Denali highway is
7 simply to operate roadblocks at the terminus so
8 presumably people from the Yukon going up the Denali
9 to shoot something and coming home would be stopped by
10 a game warden.

11 I agree it would be extremely
12 expensive to try to patrol the thing and to stop people
13 from hunting.

14 WITNESS STEPHEN: If I could
15 interrupt, and add to that, there are certain management
16 techniques that are possible. If you wanted to completely
17 eliminate hunting, all you'd have to do would be to
18 seal guns as they do in national parks.

19 Q All you'd
20 have to do would be what?

21 A Seal the guns as they
22 do in national parks.

23 Q Oh yes.

24 A There are several
25 provinces which have bans on hunting within certain
26 distances of roads, mainly, for aesthetic purposes
27 well travelled highways, piles of guts along the roads
28 are not too -- little old ladies don't like to look at
29 them.

30 Q Yes, well, Dr. McTaggart-Cowan

Simmons, Mossop, Stephen, Norton
Cross-Exam by Veale

1 urged as I recall, a game reserve two miles on either
2 side of the proposed pipeline right-of-way. That's
3 what you're suggesting might be done with the Dempster.
4 You still face the problem that Mr. Mossop has addressed

5 A That's right. It's a
6 management problem.

THE COMMISSIONER:

7 Q Dr. Simmons, did you want
8 to say something? I saw you passing a note to --

9 WITNESS SIMMONS: No, it was
10 covered.

11 MR. VEALE: Mr. Mossop, if
12 it were to be decided that the pipeline construction
13 were going to proceed that next spring, and you were
14 advised that there was going to be a substantial amount
15 of heavy equipment and truck traffic on the Dempster
16 highway, would the Game Branch be prepared for that in
17 terms of having completed research in order to establish
18 recommendations for how that traffic should be monitored
19 or how it should be organized?

20 WITNESS MOSSOP: No, no.
21 Again, recommendations have already been made by our
22 branch, again, in a vacuum in terms of, oh well, we've
23 heard these things before in terms of conveying convoys
24 of trucks in you know, speed limits and what not, but
25 there's no data to base those sorts of recommendations
26 on.

27 Q Getting back to the
28 Dempster highway and the issue of access, what can
29 you tell us about what the Dempster highway has meant
30 to the area that it goes through at the present time,

Simmons, ~~Mossop~~, Stephen, Norton
Cross-Exam by Veale

1 without being completed?

2 A In terms of just letting
3 people get into the land?

4 Q Yes.

5 A Not an awful lot of
6 hard data, unfortunately, but to my knowledge, two
7 roads privately constructed of any significance are
8 in place. One is approximately 69 miles long which
9 opens an area to the east of the Dempster highway in
10 about the mile 50 area and another is a road to the
11 west of the Dempster highway approximately 25 miles
12 long. In mountainous regions, this means in essence,
13 opening a river valley which -- to hunting and to
14 access, which wasn't open before.

15 I think the next -- the
16 recent construction of the Dempster highway, of course,
17 has precluded any other construction of tote roads
18 and private construction of roads, there just hasn't been
19 time. But, what happened in the Eagle Plain when the
20 Dempster highway was built across the plain, there were
21 already in place -- well -- hundreds of miles of
22 seismic lines and winter roads which were made just
23 preceding construction.

24 So, in essence, what the
25 highway did was join all these together to an access
26 trunk from the south and so I would guess that that
27 means that a huge area in Eagle Plains is open to
28 snowmobile traffic anyway. We don't know what the
29 effect is going to be in terms of four-wheel drive
30 access because that section of the road has just been

Simmons, ~~Mossop~~, Stephen, Norton
 Cross-Exam by Veale

1 built. But, presumably, at least in time, it will
 2 mean access by other forms of vehicles through a very
 3 large area.

4 Q You're aware that, I
 5 presume, that if the interior route were chosen for the
 6 pipeline that that involves the use of the Dempster
 7 highway and also three access roads from the Dempster
 8 up to the interior route; one being a winter road
 9 to Old Crow; the second one being a winter road to
 10 Lapierre House and the third one being an all-weather
 11 permanent road from the Dempster highway close to the
 12 Yukon - N.W.T. border going up into the Richardsons.

13 Now what consequences does
 14 that have from your point of view with respect to
 15 general access to that area?

16 A Well, it's just a com-
 17 pounding of the same problem that we've already talked
 18 about. The all weather road, of course is the one that
 19 would give us the most concern. You want to know the
 20 specific wildlife populations that are going to be
 21 affected or you just want a general statement?

22 Q Yes. Well, the wildlife
 23 populations that would be affected by that access.

24 A Well, the Dall sheep
 25 population in the Richardson Mountains would have to
 26 be involved in the discussion at that point because
 27 the road would be approaching their range at that point.
 28 very valuable trophy animal, as you know.

29 It would mean access presumably,
 30 it would mean access eventually to Old Crow and the

Simmons, Mossop, Stephen, Norton
Cross-Exam by Veale

1 area of the Old Crow Flats which would give us, again,
2 more problems because of the wildlife populations which
3 are dependent upon that area. It's a compounding of
4 the same thing we've been talking about access related
5 problems.

6 Q What about specifically
7 with respect to the Porcupine caribou herd, you know,
8 considering the access already provided by the Dempster
9 highway? What does this increased access do to that
10 herd?

11 A I don't -- you know,
12 contend to be a caribou expert at this point, but
13 I do know the area. What we're doing is, in essence,
14 building a highway further and further into the range
15 of the Porcupine caribou, paralleling, if you like,
16 its movement everywhere that the herd is going, it's
17 running into this highway and in essence, what you're
18 doing is building three roads at another stage in
19 their life cycle. We're on their winter range now,
20 and now you're building a road on migration route --
21 a migration route that's well known and very important
22 to the people, for instance, at Old Crow. That's why
23 they're there.

24 So, that's really all I can
25 say.

26 Q What is your preference
27 if we are dealing with solely, with a gas pipeline as
28 between the two routes proposed; one being the
29 coastal route and the other being the interior route?
30

Mossop, Simmons, Stephen, Norton
 Cross-Exam by Veale

1 A This is an area that I'm
 2 a little hesitant to enter but, because I think I'm almost
 3 convinced that we're not really talking about a gas
 4 pipeline solely, but be that as it may, if we were talking
 5 about a buried gas pipeline across the Northern Yukon,
 6 if it had to go in the Northern Yukon, I would probably
 7 prefer to have that built on the North Slope as opposed
 8 to the interior. I think I have to also add that that's
 9 a personal opinion from simply being in the area, and
 10 associated with the Northern Yukon for the last few
 11 years.

12 THE COMMISSIONER: You said
 13 that if that were all, that's what you would do. You'd
 14 build it on the North Coast.

15 A Beg your pardon?

16 Q Sorry, Mr. Mossop.
 17 You said that if there were simply a buried gas pipeline
 18 to be built you would urge it be built along the coastal
 19 route as opposed to the interior route. That's your
 20 position.

21 A Not urge.

22 Q Well, not urge, but if
 23 you have to have it --

24 A Right.

25 Q -- well what you said
 26 earlier was, that you didn't think that that was all that
 27 would be built. I take it you're assuming an oil
 28 pipeline would follow.

29 A Yes, I've read the
 30 testimony of various people who expressed the fear that

~~MORRIS~~ Simmons, Stephen, Norton
Cross-Exam by Veale

1 we're talking really about a transportation corridor in the
2 Northern Yukon with an oil pipeline and a road.

3 Q Well, that's the assumption
4 supposed
5 on which this Inquiry is to proceed, that there will
6 be a corridor. The gas pipeline is the first component
7 in the transportation corridor, and the assumption is
8 that an oil pipeline will follow. That is along the
9 corridor across the Northern Yukon. The corridor from
10 the delta south along the Mackenzie; not only is that
11 the assumption but the producers from the delta have
12 announced that they want to build an oil pipeline. But
13 let's assume there were to be an oil pipeline. Suppose
14 you had somebody here representing an oil pipeline,
15 who is saying, "We want to build one."

16 Then what would you say if
17 you had to choose between the two routes, not that we
18 would take it that you would urge it, but if you had
19 to choose?

20 A I'm afraid I'd have to
21 be honest with myself and say I wouldn't want it in
22 the Northern Yukon at all. I'm not really prepared for
23 that kind of a question. The problems of oil on the
24 North Slope, instinctively I don't like that idea.
25 Not that I like the idea of oil in the Porcupine River
26 any better.

27 THE COMMISSIONER:
28 O.K., well Mr. Veale

29 brought it up and I just wanted to make sure we didn't
30 leave anything hanging in the air. But if you're not
31 prepared to answer it, I quite understand. You weren't
32 asked to come here to deal with that.

MORRIS, Simmons, Stephen, Norton
Cross-Exam by Veale

1 MR. VEALE: Well, to follow up
2 with preferences related to a gas pipeline, would you
3 prefer a more southerly routing from a wildlife point
4 of view?

5 A I think so, yes. I think
6 if we want to talk about routing, my personal preference
7 would be to get it out of the Northern Yukon altogether.

8 Q Now I take it that if we
9 talk about southern routings and we deal with the Fairbanks
10 corridor, the Alaska Highway, would your preference in-
11 clude the lateral from Inuvik down the Dempster Highway
12 or would it not?

13 A No, it would not.

14 Q Now there's another route
15 that has been -- I wouldn't say "proposed" but maybe
16 bandied about in this Inquiry, and that's a route that
17 is proposed by George Calef, and he suggested a route
18 that would come down south of the Alaska Wildlife Range,
19 and cross the Porcupine River about the Alaska-Yukon border
20 and then proceed across to the Dempster Highway and
21 up the Dempster Highway. Can you comment on that route,
22 what you would think about that?

23 A What I would like to see
24 about this route business is given, as I've already said,
25 I would prefer a more southern route, I would throw that
26 proposal in with the southern routes. It sounds pretty
27 southern. At least it's out of the areas that
28 we've been talking about, but I would like to be able
29 to talk intelligently about southern routes, if that's
30 what we want to talk about, which means I would like

1 to talk about a proposal, an actual proposal, not pick
2 the proposal in the North Slope which has been fairly
3 well detailed, as opposed to one down the Alaska Highway
4 which I really know nothing about for instance, the
5 alignment that is anticipated along the Alaska Highway
6 or that's in a trench or some of these other proposals.
7 So I think I'd just like to leave it at my preference
8 for the south and look at them more closely if they
9 ever develop.

10 THE COMMISSIONER: Your preference
11 is to get it out of the Northern Yukon, that's as far
12 as it goes.

13 A That's right.

14 MR. VEALE: I'm certainly with
15 you there, Mr. Mossop, we would be interested in propos-
16 als -- you mentioned in your evidence the -- I think
17 you used the words "performance bond" or possibly
18 "guarantee" and I would like to explore this with you
19 as there has been discussion about this previously
20 and discussion relating to the -- some of the difficul-
21 ties in establishing performance bonds or guarantees
22 with respect to wildlife populations, and the problem
23 does exist, of course, that you cannot in many cases
24 determine the precise cause of a population decline, for
25 example, in the Porcupine caribou herd. Now you have
26 expressed ^{some} favor of having a performance bond. What
27 do you do about that kind of problem?

28 A My thoughts on this are
29 evolving as I get into this and I'm almost to the point
30 now where when we discussed this testimony among our

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 staff, there was a very strong feeling about a performance
2 bond and I think I'm to the point now where I'd almost prefer
3 to
4 call it a performance guarantee where we're not talking
5 about something, because the next question is "How much?"
6 You know, and I don't think anybody is prepared to
7 answer that question. But a performance guarantee is a
8 slightly different philosophy.

9 Q Are you suggesting a
10 performance guarantee, in other words without the
11 deposit of money?

12 A Without deposit, commit-
13 ment to -- it's the same philosophy as the performance
14 bond but a commitment to repair whatever afterwards,
15 and this -- the arguments regarding proving damage are
16 never going to be resolved, but I think there still is
17 a very real role to be played by this kind of a philoso-
18 phy simply because there could be very dramatic damage,
19 if you like, change, which would be obviously attributable
20 to pipe. I don't think performance bonds are designed
21 in my thinking to repair damage which takes place 25
22 years after a construction, population starts to decline,
23 after 25 years for instance. But if something dramatic
24 takes place within five years of the construction, I
25 think that's where this kind of an approach comes in.

26 Q Well, what about the
27 area of difficulty then, that of proof of the cause of
28 the damage being ^{the} construction of the pipeline or the
29 existence of the pipeline? Has your department
30 considered how to handle those kinds of problems?

A We're into an area that

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 is, you know, part of my professional duties don't
2 enter. Personally again I would say I'd prefer keeping
3 it out of the Courts and would probably prefer the
4 creation of some body, some tribunal to decide just
5 that and the makeup of which is not clear in my mind,
6 but is that what you --

7 THE COMMISSIONER: Why pursue
8 this with Mr. Mossop? We all have views, I suppose,
9 and --

10 MR. VEALE: I'll proceed on, Mr.
11 Commissioner.

12 Q You also mention the
13 prospect or you suggested, I believe, that ^{Arctic Gas,} the applicant
14 should contribute to the increased budget demands that
15 your department is going to have. Now the argument
16 there is that that's not necessary. The government is
17 going to obtain revenue from the pipeline and why
18 should the applicant be forced to put that money up
19 front? Now do you have any answer to that?

20
21
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Simmons, Mossop, Stephen, Norton
Cross-Exam by Veale

1 A Well, the answer I suppose
2 is two-fold. As I've already indicated in testimony,
3 the northern Yukon is rather a unique political area
4 in this discussion simply because there's nothing there
5 now in terms of a managing authority at all. There's
6 very little there in terms of outside human activity
7 at all.

8 So, there is a very real case for
9 saying this is new activity which is thrusting upon the
10 game branch, a brand-new responsibility and one which
11 I've already indicated, we probably aren't going to be
12 able to handle adequately.

13 The problem with, I suppose
14 all governments is that they react and there's no way
15 that we can react on the scale that we're talking about.
16 I think a million dollars was a fair calculation that
17 we made, when we're talking about an organization that
18 has a total annual budget of \$700,000 now.

19 The governmental mechanism
20 just won't stand that kind of a demand. It would take
21 us -- well, you calculate it out, the years it would take
22 us to establish that program.

23 Q In other words, it would
24 be too late by the time you got the program going?

25 A That's right.

26 Q Well, is it fair to say
27 that the northern Yukon territory has a wildlife
28 population that ranks as high as anywhere in North
29 America?

30 A The northern Yukon?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Veale

1 Q Yes.

2 A In terms of its uniqueness,
3 I think, I don't know what superlative to use, but it
4 certainly is the envy of a very many people in my
5 profession, I suppose throughout North America. That's
6 fair.

7 Q Well, in terms of wildlife
8 management, does the northern Yukon rank -- where does
9 it rank on the scale in North America?

10 THE COMMISSIONER: The northern
11 Yukon or the Yukon?

12 A Are you talking about the
13 Yukon territory?

14 MR. VEALE: I'm sorry, the
15 Yukon Territory.

16 A The Yukon Territory. I
17 am not aware of a political area in North America that
18 has a management program which is inadequate, I suppose
19 is the word, as the Yukon Territory and the -- I
20 suppose the Yukon Game Branch is taking a lot of
21 kicking here. I suppose some of the problem lies outside
22 of the Territory. The Yukon Territory is the only
23 political area in Canada for instance which has no
24 migratory game bird refuge which is another indication
25 of how far our management has gone.

26 Q Well, in your evidence,
27 you -- it was on page 11, you've said that you see some
28 responsibility upon the applicant to provide some
29 recommendations on wildlife game management. Has there
30 been to this date, any communication of that nature

Simmons, Mossop, Stephen, Norton
Cross-Exam by Veale

1 between the Game Branch and the applicant, Arctic Gas?

2 A There has been communica-
3 tion but no-one has set -- you know, no-one has -- I
4 think it's worth pointing out here that the biologists
5 who worked on the pipeline related programs in the
6 northern Yukon are the experts in terms of the wildlife
7 populations in the northern Yukon right now.

8 THE COMMISSIONER: Because
9 they're the only people who've been there to observe
10 the animals. Is that the situation?

11 A They're the only ones
12 who've ever done any biology really of any consequence
13 in the northern Yukon.

14 Q And they've all been here?

15 A I beg your pardon?

16 Q They've all been here.

17 A Right.

18 Q We've heard from them all,
19 and a very distinguished group of people they are, too.

20 A In terms of -- what I
21 was trying to get at, is that in terms of managing the
22 wildlife populations, given the construction, that
23 mandate is ours and the experts are somewhere else.
24 The biologists who work for the pipeline companies, and
25 simply, what I'm asking for, is help from the people
26 who have the information in terms of not dictating to
27 the Yukon Game Branch what to do, suggesting a plan
28 of management, if you like; suggesting where management
29 oriented research should begin. I think probably I'm
30 wrong in saying that none of this has gone on because it

Simmons, Mossop, Stephen, Norton
Cross-Exam by Veale

1 certainly -- we certainly have all the reports to read
2 and I'm sure that nobody is really adverse to that --
3 to the kind of consultation that I'm talking about.

4 MR. VFALE: In the opening
5 page of your evidence, you stated that the mandate
6 in the Yukon Territory does not include management
7 of wildlife habitat. Now, what do mean precisely by
8 that comment, because I would assume that wildlife
9 habitat would be precisely what you're concerned with?

10 A There's a jurisdictional
11 problem in managing wildlife in the north of 60 and
12 the problem is, as we've stated, the Department of
13 Indian Affairs administers surface rights which includes
14 wildlife habitat. In the Yukon Territory, the mandate
15 to manage wildlife populations with the exclusion
16 of migratory birds, rests with the Yukon Government.
17 I'm sure any high school student in ecology can recognize
18 the dilemma in that, simply because the wildlife habitat
19 cannot be separated from the wildlife populations which
20 are in an ecological sense, a part of it.

21 It's the dilemma facing wildlife
22 management in the northern -- northern Canada.

23 Q Well, as an example of
24 this now, there are land use operations and land use
25 permits in the Yukon Territory. Do you have -- does
26 the Game Branch have input to those land use permits?

27 A We sit as an advisor on
28 the Territorial Land Use Advisory Committee which is
29 basically a federal committee. We pass advice on land
30 use applications, yes.

Simmons, Messop, Stephen, Norton
Cross-Exam by Veale

1 Q Well, is that an adequate
2 body to -- from the wildlife management point of view
3 to get your input into land use operations?

4 A I think to date, I would
5 have to -- I think the real answer to that is it varies
6 tremendously. In some instances, we have been reasonably
7 effective and in the majority of cases, I probably would
8 have to honestly say that we haven't been effective, no.

9 Q You haven't been --

10 A Have not been effective
11 in implementing our concerns in the --

12 Q Are there any examples
13 of that in the northern Yukon, the area we're talking
14 about now?

15 A The one that comes immedia-
16 tely to mind is an operation which is taking place
17 currently in the northern Yukon which was handled by
18 means of calling a land use meeting on a -- shortly
19 before I came to the hearing, to inform the committee
20 members that a caterpillar tractor was proceeding to
21 the north coast of the Yukon from Inuvik to carry out
22 some work.

23 When discussion proceeded, it
24 turned out that the cat was already on the site which
25 is an indication that sometimes, our concerns don't
26 get across, if you like.

27 Q I understand that you have
28 personally conducted research on the Crow Flats.

29 A That's right, yes.

30 Q Could you tell us when that

Simmons, ~~Mossop~~, Stephen, Norton
Cross-Exam by Veale

1 research started and what it is?

2 A The program is a cooperat-
3 ive program. Our personnel is carrying out the work
4 with some logistic help from the Canadian Wildlife
5 Service at present. My involvement started in 1974
6 which is, in essence, when our -- the Game Branch's
7 program in the Old Crow area commenced and the idea
8 was to -- as I've already indicated, we moved into
9 the Yukon with a small program at that time, '74.
10 The idea was to try to devise and gather management
11 oriented data while we were carrying out our enforcement
12 commitments in the northern Yukon and in essence, it
13 was my job to design the kind of research which we would
14 carry out and the priority, if you like was decided
15 upon that we would gather information on the wildlife
16 populations which most directly affected the residents
17 of the Yukon -- northern Yukon which was the Old Crow
18 Flats in the case of the Old Crow people.

19 The program is envisioned
20 as a long-term study and overall ecological study of
21 the Old Crow Flats, if you like. I am involved with
22 primarily with the waterfowl populations in the Flats
23 and I'm also censusing the moose populations
24 on the Flats and the fur bearers. Census data which,
25 presumably, will be used ^{by} somebody at a later stage of
26 the study.

27 Q Is there anything of
28 special significance about Crow Flats. I mean the fact
29 that it's well used by the people of Old Crow?
30

MOSSOP, Simmons, Stephen, Norton
Cross-Exam by Veale

1 A Again I can't answer that
2 question with hard facts outside of the wildlife popula-
3 tions which are there. IT's no mystery, if you like,
4 why the people of Old Crow live where they do in
5 association with the Old Crow Flats. The wildlife
6 populations in Old Crow Flats have been known for
7 many, many years; in terms of why they're there in the
8 density that they are, this is basically why we're doing
9 the research we're doing.

10 Q Well, you personally
11 conducted bird counts, I understand.

12 A Yes.

13 Q Well, have your counts
14 corresponded with counts made by the applicant or
15 are there discrepancies there?

16 A Counts of the waterfowl
17 in the Old Crow Flats have been conducted since 1959
18 by the U.S. Fish & Wildlife Service in co-operation,
19 I believe, with the Canadian Wildlife Service. In
20 essence what my counts and census has done is continued
21 from well, 1974. The applicant I think presented one
22 survey of the Old Crow Flats. I think it's important
23 to point out, and I'm not -- I suppose I'm into this
24 guild problem that you were talking about earlier, but
25 I think it's very, very important to look at field
26 data with the same degree of reliability that was
27 intended for the data. The applicant made aerial survey
28 of the Old Crow Flats to answer a fairly simple ques-
29 tion, which was stated in the report as " Are there lots
30 of waterfowl in the Old Crow Flats?" and the answer

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 you got was, "Yes." I think we're asking some very
2 much more sophisticated questions and therefore our
3 census is done in a much more detailed manner, and the
4 answer to your question is there is a discrepancy of
5 approximately four or fivefold.

6 Q In terms of the bird
7 population on the Flats?

8 A That's correct.

9 Q Well, do you have any
10 concerns about the Crow Flats from a wildlife point of
11 view considering that the pipeline, if it were to go
12 on the interior route, would run along the north side
13 of Crow Mountain just on the south edge of the Flats?

14 A I think our concerns with
15 the Old Crow Flats are again access-related problems
16 with some additional wrinkles, if you like. We fear
17 access to the Old Crow Flats as a start in the same sort
18 of argument that we've already presented. Wildlife
19 populations in the Old Crow Flats are well-known, as
20 I've said, a very large class of for instance moose
21 in the Old Crow Flats which would come under harvest
22 pressure presumably. We're also concerned about sur-
23 face disturbance in the Old Crow Flats and we've expressed
24 this concern elsewhere. It's unknown, the effect of
25 surface disturbance in the Old Crow Flats, it's unknown
26 what the effect will be on lake drainage is really
27 what I'm trying to say. The lakes in the Old Crow
28 Flats are hanging lakes, held in place by ice dykes
29 which in turn are held in place presumably by vegetative
30 cover. So those are my concerns with the Old Crow Flats.

Murray, Simmons, Stephen, Norton
Cross-Exam by Veale

1 Q Well, there has been
2 seismic work done previously on the Flats, has there
3 not?

4 A That's right, on the
5 extreme southern edge of the Old Crow Flats there was
6 some seismic work. A winter road was built to the
7 southern extremity and some seismic work was done, yes.

8 Q Has there been any research
9 to determine if there were any damage done, or are you
10 aware of any damage done by that?

11 A There is no research of
12 any significance. Observations that we've made, indi-
13 cate that for instance the winter road resulted in
14 pond formation in the forested area across, at least
15 one stream was plugged but no research has been done.

16 Q The wildlife management
17 seems to be something that is conducted by white
18 northerners. Now, have there been any attempts to
19 involve native people as resource managers in the
20 Yukon Territory?

21 A We have a plan which we
22 intend to initiate this summer in the Old Crow area
23 again, involving people from Old Crow in our program.
24 People from Old Crow have already been involved in our
25 program, but in a role, if you like, an educational
26 role at this attempt. The idea would be to, as you have
27 indicated, involve Old Crow people in the management of
28 the resource on which they depend.

29 Q Mr. Simmons, I'll ask a
30 few questions of you. Has the N.W.T. Fish & Wildlife

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 Service performed any management functions or done any
2 research with respect to the Porcupine caribou herd
3 to the extent that it enters the Northwest Territories?

WITNESS SIMMONS:

4 A Yes , we have in co-
5 operation with the Canadian Wildlife Service.

6 Q I see, and could you
7 outline what that is?

8 A Excuse me?

9 Q Could you tell us about
10 that?

11 A No. I don't know the
12 details of research in that area.

13 Q Well, what research? I
14 mean --

15 A I believe it's been -- I
16 can, by the way get the details very quickly for you, but
17 I believe it's been studies of the caribou movements
18 along the North Slope.

19 Q This was back when the Canadian
20 Wildlife Service was involved in caribou studies.

21 A These studies are
22 continuing now, am I correct, or --

23 WITNESS STEPHEN: On the
24 bluenose.

25 WITNESS SIMMONS: On the bluenose,
26 that's right.

27 Q Are you confused --

28 A Yes, I am. My statement
29 which said that the Canadian Wildlife Service and the
30 Northwest Territories Fish & Wildlife Service are in-
31 volved in a joint project really referred to the bluenose
32 herd.

33 Q I see.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 A And not to the Porcupine
2 herd, I'm sorry.

3 Q Thank you. Has there
4 been any liaison between the Fish & Wildlife Service
5 with the Yukon Territory regarding the Porcupine
6 caribou herd, you know particularly considering the
7 Dempster Highway construction and ^{its} impact on the herd?

8 A Discussions, yes. I
9 don't think it's gone beyond there.

10 Q What -- the concern that
11 I would have is that it's not simply -- there's a
12 jurisdictional problem, eh, that the caribou herd
13 crosses several borders, and I'm interested to know
14 the extent to which you are monitoring for instance the
15 Fort McPherson involvement in the herd and the involve-
16 ment of the Dempster Highway.

17 A We are interested in
18 getting statistics, hunting statistics from people from
19 our side of the border when they do hunt in the Yukon
20 Territory ^{on} that herd. We are interested in providing
21 these statistics to the Yukon Territorial Government to
22 strengthen their data base. As far as I know, that's
23 the extent of our co-operation on management of the
24 Porcupine caribou herd.

25 Q Does your branch have
26 any contingency plans related to the routing that the
27 pipeline might take, in other words, if it goes across
28 the coast versus the interior?

29 A As I said earlier in my
30

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 testimony, or in my -- during cross-examination, we are
2 in the process of planning a response to the pipeline
3 construction and operation. The planning is not
4 completed as yet. This has to do with our delta
5 regional plan which we are using as a wildlife manage-
6 ment plan actually.

7 Q You indicated at page
8 14 of your evidence that management studies should
9 begin a year prior to actual construction. My question
10 is whether that is at all adequate? I mean even
11 beginning now for possible construction next year, is
12 that an adequate response?

13 A Did you say at page 14?

14 Q Yes, I did.

15 A Well, without even looking
16 at the page, I would say that the beginning of research
17 designed particularly for the pipeline problems should
18 be at least a year beforehand. I would like to see it
19 start quite a bit more than that. We should actually
20 be working on the problem now.

21 Q That was my concern
22 precisely. I thought there was an implication or an
23 inference that
24 /one year was enough when in fact the applicant has
done several years of study itself.

25 A If I left that impression
26 in my testimony I should correct it right now. I
27 certainly don't mean that one year would be adequate
28 before the start of construction.

29 Q You've indicated also on
30 page 19 of your evidence that your branch cannot cede

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 any management studies or functions to another agency.
2 It would seem to me that if we deal with the Porcupine
3 caribou herd, that perhaps if there were one sole
4 agency rather than divided jurisdictions, taking a look
5 at the problems that the impact of a pipeline will have
6 on the herd that there will be less problem than with
7 the Yukon and N.W.T. being two separate agencies.
8 Are you putting that into the comment that you would not
9 be prepared to cede the management responsibilities
10 to another agency?

11 A Really what I was talking
12 about when I said I would not recommend ceding any of
13 our responsibilities, I was dealing in my own mind with
14 the proposal that a central authority be established
15 to take care of the management of the entire corridor.
16 This is now being studied and reviewed, I believe, by
17 the Federal Government. I don't think that we would
18 have any significant problems in co-ordinating our
19 management and research with the Yukon Territorial Govern-
20 ment on a herd such as the Porcupine herd.

21 Q Dr. Stephen, I'm inter-
22 ested in -- I understand that at one point the
23 Canadian Wildlife Service did in fact do research, I
24 think it was Elmer DeBock^{that} was doing research on the
25 Porcupine herd. Is that correct?

26 WITNESS STEPHEN: That's
27 correct.

28 Q Well, why would --

29 A I'm sorry, Dennis
30 Surrendi started it off before him.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1
2 Q I'm sorry, I didn't get
3 that name.

4 A Dennis Surrendi.

5 Q Why did the Canadian
6 Wildlife Service -- it appears to me that they pulled
7 out and that the applicant stepped in and completed the
8 research.

9 A Those studies were
10 concurrent and it was part of a Mackenzie Valley
11 Pipeline investigation project with a term attached
12 to it, and a price tag. When the term ran out, our
13 job was finished. We wrote our reports and although
14 DeBock's and Surrendi's have been a bit tardy in coming
15 to completion, I should point out another thing that
16 might allay some misapprehension. Prior to 1970 when

17 Environment Canada was formed, we were part of
18 the Department of Indian Affairs & Northern Development
19 and had a mandate through the Northern Economic Develop-
20 ment Branch to do research in the Northwest Territories
21 and the Yukon. That was phased out in the fiscal year
22 '73-74, and our operations in the Northwest Territories
23 and Yukon are the same as with any other province
24 concerning wildlife under their jurisdiction. In other
25 words, it's on a cost sharing basis, and that's the
26 reason we're doing work in the Northwest Territories
27 on the bluenose herd.

28 Q I had the impression that
29 -- I guess I'll have to accept the fact that C.W.S. did
30 a one-shot study of the Porcupine herd. My impression
was that there was rather a long hiatus between the

Mossop, Simmons, Stephen, Norton
Cross-Exam by Veale

1 C.W.S. ending its research and the Yukon Game Branch
2 initiating its research, and I'm wondering if that has
3 led to the lack of co-ordinated response to the Dempster
4 Highway.

5 A I don't think -- I wouldn't
6 call it a long hiatus. I think the last field work
7 was done in 1974 and, at least that's when the funding
8 ran out, March 31, 1974 and I think there was some data
9 collected that winter. Draft reports are still pretty
10 drafty.

11 MR. VEALE: I have no further
12 questions.

13 THE COMMISSIONER: All right,
14 we'll adjourn for coffee and then Mr. Bayly can, I'm
15 sure, clean up the panel in what remains of the
16 afternoon.

17 (PROCEEDINGS ADJOURNED AT 3:25 P.M.)
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Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT AT
2 APPROXIMATELY 3:55)

3 THE COMMISSIONER: Well, we
4 will come to order.

5 MR. BAYLY: Gentlemen, if I
6 could just follow up some of the matters that Mr. Veale
7 raised in his cross-examination.

8 CROSS-EXAMINATION BY MR. BAYLY:

9 Q With regard to the cat
10 which is somewhere on the north coast of the Yukon,
11 Mr. Mossop, is that a Geological Survey of Canada Project,
12 to your knowledge?

13 WITNESS MOSSOP: I believe that's
14 right, yes.

15 Q And are they -- is the
16 location of the network, whatever it may be, at the
17 Babbage River Delta?

18 A That's what we are told,
19 yes.

20 Q Right. Is that the extent
21 of your --

22 A That's the extent of my
23 knowledge, yes. I don't even know what the cat is doing.
24 For instance, I don't know whether it's working on ice
25 or on land.

26 MR. BAYLY:
27 Perhaps, Mr. Commissioner,
28 if it has anything to do with pipeline or pipeline
29 related facilities, we could get that information
30 through Commission Counsel.

MR. GOUDGE: I understand, Mr.
Commissioner we'll look into it but I understand that it

1 was a cat being used by Dr. Lewis with whom Mr. Bayly
2 will be familiar.

3
4 MR. BAYLY: I suppose I can
ask him, he's my witness.

5 They don't tell you
6 everything.

7
8 Q Dr. Simmons, with regard
9 to the Porcupine caribou herd, again following up what
10 Mr. Veale was asking about, I understand that although
11 there was C.W.S. and Northwest Territories Game coopera-
12 tion with regard to the Bluenose herd, that there was
13 also a joint project involving the Northwest Territories,
14 the Yukon and the Alaskans anyway, with regard to the
Porcupine herd. Are you aware of that?

15 WITNESS SIMMONS: I have since
16 had a brief discussion with one of my staff members
17 during which I was told where the Porcupine caribou
18 herd is, and I learned at the time that through the
19 -- under the auspices --

20 Q It's not us, I don't think.

21 A Oh. -- of the caribou
22 committee, we conducted work on the Porcupine caribou
23 herd. We had a contract individual on basic work with
24 that herd.

25 Q I see and was that work
26 that involved the Canadian Wildlife Service as well, to
27 your knowledge or to the knowledge of Dr. Stephen?

28 WITNESS STEPHEN: I believe so.

29 WITNESS SIMMONS: Yes, it did.

30 Q Yes. Is that the project

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 you were talking about Dr. Stephen? The one that
2 terminated because of the end of its time and the end
3 of its money?

4 WITNESS STEPHEN: That's right.
5 There have been ad hoc negotiations between Alaska,
6 ourselves, the Yukon and the Northwest Territories
7 concerning that herd, and there have been some ad hoc
8 attempts to put together proposals to do work jointly.
9 It looks as though it's going to take an international
10 treaty to really get the thing off the ground.

11 Q Now, Mr. Mossop if we
12 can just recap a couple of things. If I understand
13 the evidence that you've given in cross-examination,
14 it is that the Yukon Game Branch jurisdiction excludes
15 the management of wildlife habitat.

16 WITNESS MOSSOP: That's correct.

17 Q So that if there are
18 problems with either harassment or hunting of animals,
19 then you have jurisdiction to do something about it?

20 A Yes, the Yukon Game
21 Warden covers those two areas.

22 Q But if it has something
23 to do with, say, an industrial activity, you do not
24 have any regulatory or enforcement authority to do
25 anything about that?

26 A In essence, what you said
27 is correct, yes. There are things involved with
28 industrial activity which we do have control over.
29 For instance, harassment.

30 Q Yes, but excluding those --

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 THE COMMISSIONER: But the
2 establishment of the activity is a matter for DIAND and
3 its land use people?

4 A Right, that's correct.

5 MR. BAYLY: And in that area,
6 you have an advisory role?

7 A That's correct.

8 Q Which, as you've given
9 evidence this afternoon, doesn't always give you very much
10 effective say?

11 A That's a good way to put
12 it. It doesn't always. Sometimes it does.

13 Q Right. Is that true in
14 game sanctuaries as well as in the Yukon in general,
15 or do have special authority there?

16 A Game sanctuaries, you're
17 referring to, game sanctuaries established under the
18 Yukon Game Ordinance?

19 Q I understand that part of
20 the Kluane Park is still a sanctuary.

21 A That's correct.

22 Q There's one called McArthur?

23 A That's right. I would
24 say that our advisory role in those areas carries a
25 bit more weight, but there is certainly no authority
26 involved at all.

27 Q Dr. Simmons, I take it
28 that with regard to the Northwest Territories, the
29 position is essentially the same?

30 WITNESS SIMMONS: Yes, it is.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Q I take it, the only
2 other possible exception to this and it hasn't been put
3 into force yet, is the creation of I.B.P. sites?

4 A Those are under negotiation
5 at the moment.

6 Q But that would be an
7 exception to what we've been told so far?

8 A That's right and there's
9 also another provision under the terms of the Canada
10 Wildlife Act to negotiate with DIAND and the respective
11 territories for the creation of National Wildlife
12 Areas.

13 Q Perhaps you could tell us
14 what a National Wildlife Area is, in terms of what control
15 you would have in a game management or in a habitat
16 sense?

17 A A National Wildlife
18 Area is a chunk of land usually quite extensive in
19 size, although there's no hard and fast rule about
20 that. But, for example, one we have in Saskatchewan is
21 some 23,0000 acres in size and it's operated jointly
22 by the Province of Saskatchewan and ourselves. They own
23 some of the land. We own some and it's operated according
24 to the management plan.

25 Q Would the Campbell Hills
26 be an area that might be fitted into this category?

27 A It's one of the I.B.P.
28 sites that have been proposed for protection.

29 Q That again is something
30 that's under negotiation at the present time. Were you

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 involved in that negotiation yourself?

2 A Not personally.

3 Q But the Canadian Wildlife
4 Service is?

5 A That's right. Some of
6 my staff are and it's -- they're involved in initiation
7 of negotiations and preparation of site plans.

8 Q Now, with regard to that
9 particular kind of area, would you have controls,
10 assuming that say Campbell Hills became an I.B.P. site?

11 A Well, it is an I.B.P.
12 site in the sense that it's being identified as an area
13 that should be protected and the nature of that protec-
14 tion is what's under negotiation now.

15 Q Now, if it became a
16 protected wildlife area, would that mean that the
17 negotiations would include possible controls of what
18 went on in the habitat as well as what men could do to
19 the various species that use the area?

20

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Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A That's right but that's
2 kind of a hypothetical question at this point. In other
3 words it might include a lot of things.

4 Q Perhaps you could tell
5 me this. Is that the sort of thing that's under
6 negotiation?

7 A Two things are under
8 negotiation. One is the negotiation with the land-owners,
9 and the agencies responsible for other wildlife in the
10 area, and there is also a set of national wildlife
11 area regulations which are being developed, which would
12 be the answer to your question, "What things are
13 possible?"

14 Q Yes, and in some proposed
15 I.B.P. sites the Canadian Wildlife Service might be
16 saying, "You shouldn't be doing this kind of activity."
17 Others might be saying, "That is a permitted activity."

18 A That's right.

19 Q And that's a site by site
20 consideration.

21 A The regulations would be
22 standard and there's a tendency for lawyers to say,
23 "You can't do anything without a permit."

24 Q We're past that stage
25 here, Dr. Stephen.

26 A That would be an adminis-
27 trative nightmare in terms of trying to operate an area
28 with minimum manpower.

29 Q Now, in Inuvik we had the
30 opportunity to hear Mr. Hugh Trudeau of the Fisheries

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 Service, and he went into the question of enforcement
2 and outlined in his evidence in the following pages,
3 for the record, 19453 to 74, and 19 -- and particularly
4 19470 to 19474, and in addition at 19492 and 19500,
5 certain principles of enforcement which he said should
6 be followed at least in Fisheries regulation, enforcement
7 under the Fisheries Act, and I'd like to go through
8 these with you and invite your comments on them as to
9 whether they are principles of enforcement that you feel
10 should be followed in game management as it relates to
11 birds and mammals as well. The first of these is as
12 follows:

13 "When you have no research to set standards for
14 industrial operations, it is wise to devise
15 regulations which you consider to be more than
16 adequate for the protection of the resource,
17 and then modify them as experience and further
18 research dictates."

19 Let's start with you, Dr. Simmons, and work our way
20 to my right.

21 WITNESS SIMMONS: Yes, I would
22 agree with that.

23 Q Mr. Mossop?

24 WITNESS MOSSOP: Yes, I would
25 agree.

26 WITNESS STEPHEN:

27 A I would agree.

28 Q Mr. Norton, you can get
29 in on this too if you want to be involved on it, Dr. Norton.

30 WITNESS NORTON: That first
principle sounds excellent.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 Q All right, the second one
2 is that:

3 "Enforcement is an integral part of management."
4 Dr. Simmons?

5 WITNESS SIMMONS: Yes, I would
6 agree.

7 Q Mr. Mossop?

8 WITNESS MOSSOP: I agree.

9 Q Dr. Stephen?

10 WITNESS STEPHEN: You could put
11 that another way and say that all enforcement is part
12 of management, but management doesn't always include
13 enforcement.

14 Q You'd better explain it
15 or that will bother me all night.

16 A Beg pardon?

17 Q Perhaps you could explain
18 that or it will bother me all night.

19 A Well, for example, we have a
20 crop damage control program which currently doesn't
21 have an enforcement component^{to it}, but we consider it a
22 very important management tool in managing migratory
23 bird resources. We also have various surveys such as
24 the breeding bird survey, which is essentially a survey
25 of dickey birds, which doesn't have an enforcement
26 component. Is that enough?

27 Q So it isn't always
28 essential to have enforcement as a component. That's
29 what you're saying, but in some instances it may be
30 very important.

MOSSOP, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A That's right.

2 Q Fine, and Dr. Norton?

3 WITNESS NORTON: I would agree
4 with Trudeau's point here too.

5 A The third one is that
6 "Enforcement officers should be able to take
7 action quickly and efficiently without the need
8 to seek advice in all instances from senior
9 officers."

10 WITNESS SIMMONS: I agree.

11 Q Mr. Mossop?

12 WITNESS MOSSOP: Yes, I think that's
13 the ideal situation.

14 Q Dr. Stephen?

15 WITNESS STEPHEN: I agree but
16 there is also a need for enforcement officers to exer-
17 cise discretion, and they can exercise that two ways:
18 (1) in deciding whether or not to prosecute at all,
19 and a classic example of that is the traffic control
20 officer that gives out warnings instead of tickets;
21 (2) the other bit of discretion is the possibility of
22 setting legal precedence, in which case consultation
23 should be held with superiors.

24 Q All right you're getting
25 a bit ahead of me because that's the next one. Perhaps
26 we could get Dr. Norton to comment on that.

27 WITNESS NORTON: I would say
28 "Yes, very definitely" to the point of quick action
29 and freedom from having to play the chain of command game
30 automatically. In Alaska in practice we had the

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 principle of,

2 "Feel free to buck any question to the head office
3 if you don't quite feel comfortable with the
4 decision-making or with the, you know, your
5 own execution of judgment in arguing for a
6 design change,"

7 for example. I would have a hard time to estimate, but
8 I suspect that maybe something less than 10% of decision
9 points were bucked up to head office.

10 Q So most of it was made
11 in the field, in your experience.

12 A Correct.

13 Q Now, the fourth point is
14 as follows:

15 "The decision to institute prosecution proceedings
16 should usually be made by the investigating
17 officer but in some situations you may seek and
18 require advice."

19 WITNESS SIMMONS: If you mean
20 institute investigation, I would agree, certainly. Then
21 we -- it is our policy then of course to turn the case
22 over for review and opinion to the attorney.

23 Q And do you do that prior
24 to the laying of an information?

25 A On occasion we consult
26 with the prosecutor before we lay charges.

27 Q Usually you don't?

28 A I think so, usually we
29 don't, no. Certainly not in routine cases.

30 Q Mr. Mossop?

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 WITNESS MOSSOP: In the Yukon
2 in virtually every case there is at present, consultation
3 between the conservation officer and his supervisor, who
4 then can consult with our legal advisor.

5 Q All right, so your
6 procedure is a bit different from that at present in
7 the Territories.

8 A Yes, it is.

9 Q Now, what about your
10 opinion on it?

11 A With the small branch that
12 we have now it seems to work adequately, this way.

13 Q Dr. Stephen?

14 WITNESS STEPHEN: I think I've
15 kind of answered that already.

16 Q Yes,,I thought you had. If you
17 don't want to say any more about that, that's fine.
18 You may have something you want to add.

19 A Well, I tend to agree
20 that-- with Dr. Norton that there are very few instances
21 that one should have to worry too much about that. In
22 other words, a clear case of over bag limit or over
23 possession limit, usually doesn't require consultation;
24 but if it's a tricky issue then consultation should be
25 bumped up, at least supervisors made aware of possible
26 consequences of any action taken.

27 Q All right, and Dr.
28 Norton?

29 WITNESS NORTON: I'm sorry,
30 I've missed the guts of the point. Could you repeat

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 it?

2 Q All right, the point is
3 the decision to institute prosecution, that is to
4 initiate it, should usually be made by the investigating
5 officer but in some situations he may seek and require
6 advice. You may have already answered that in your comment
7 on the last point.

8 A Well, to be clear about
9 this, in the Alaskan construction phase we did everything
10 possible to stay out of a prosecution posture. It is
11 not quite like having over the bag limit or possession
12 limit in dealing with the construction process. In
13 our case, matters of prosecution were absolutely decided
14 upon at very high levels because it is a thing of last
15 resort that we wanted to avoid. I just hope that the
16 different sides of the thing, that the four of us on
17 this panel are talking from is clear in the Inquiry's
18 mind.

19 Q All right, and that's something
20 that perhaps the other panelists may wish to comment
21 on. There appears to be in Dr. Norton's mind a question
22 that some of you may have been answering questions with
23 regard to your traditional and present areas of authority
24 for most of your jurisdiction that is over harassment
25 and hunting, and that they may be different especially
26 in the ^{case of} Dr. Stephen and his bird sanctuaries where there
27 is the possibility of prosecuting for infractions that
28 involve habitat.

1 WITNESS STEPHEN: I agree with
2 Dr. Norton that the environmental issues are usually
3 not as clear-cut as an overbag limit or a shooting
4 after hours or hunting in the wrong place, so that
5 different procedures are usually used and ordinarily,
6 what happens when we detect a violation is that the
7 operation is shut down and that usually costs the
8 operator more than the maximum fine under the Migratory
9 Birds Convention Act, which is \$300.

10 Q You say that as though
11 you think that's probably too low?

12 A Well, it was probably
13 an appropriate price in 1916 when the Act was -- or the
14 treaty was signed and the Act was enacted.

15 Q But no longer? Is that
16 what you're inferring?

17 A Well, there has been
18 some inflation.

19 Q Right. The fifth point
20 may be one that is very obvious in light of what you've
21 said already, but it was mentioned by Mr. Trudeau and
22 that is that the decision to prosecute should never
23 be taken lightly. Dr. Simmons?

24 WITNESS SIMMONS: That's
25 correct.

26 Q Mr. Mossop?

27 WITNESS MOSSOP: The decision
28 which --

29 Q To prosecute should never
30 be taken lightly.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A That's correct yes.

2 Q Yes.

3 WITNESS STEPHEN: I would agree

4 WITNESS NORTON: I would agree.

5 Q Point six, once

6 regulations are passed, they should be enforced impar-
7 tially. The decision about whether to proceed with a
8 prosecution should be a question of law and not subject
9 to administrative or executive influence.

10 WITNESS SIMMONS: Could you
11 repeat that over again, please?

12 Q Once regulations are
13 passed, they should be enforced impartially. The
14 decision about whether to proceed with a prosecution
15 should be a question of law and not subject to adminis-
16 trative or executive influence.

17 A That's a two-pronged
18 statement. I believe --

19 Q Well, take one prong at
20 a time.

21 A O.K., I will. I would
22 -- in the type of cases that we deal with, I believe
23 that a great deal of judgment must be exercised by the
24 field officer who, if he feels he has to, if he's out
25 of his orbit, would consult with his superiors. So,
26 judgment plays a part in there. It just isn't black
27 or white although I believe Mr. Trudeau said that that
28 would be nice if everything was black and white.

29 Q Yes.

30 A The second part of it, I

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 -- if he's implying interference, I would agree with
2 him. That interference should not be brought to bear
3 between the enforcer and his quarry , so to speak.

4 Q Right. Mr. Mossop?

5 WITNESS MOSSOP: Yes, I can
6 just repeat discretion and you know, the abhorrent
7 factor of interference from above.

8 Q Right. Dr. Stephen?

9 WITNESS STEPHEN: I'd agree
10 with the implication that there's malicious managerial
11 interference in operations of field officers, if that's
12 what was implied, but I don't believe it was. The
13 answer to the question, should prosecution be taken
14 lightly, I think is no, and the judgment on procedure
15 should ^{take} account of the nature of the offense. The likely
16 effect of the evidence available in a court of law
17 and the possible event of setting a legal precedent
18 which might be disadvantageous in future prosecutions.

19 Q You mean losing?

20 A I beg your pardon?

21 Q You mean losing?

22 A You might lose them, that's
23 right.

24 Q But that's a question
25 of law, I suggest to you --

26 A That's right.

27 Q -- if you've got the
28 evidence.--

29 A But it depends on the
30 goods you have in your hand.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

Q Right, O.K. Dr. Norton?

WITNESS NORTON : Yes, Dr.

Stephen's comments are appropriate. I could illustrate this caveat on prong two by saying that in Alaska, we had two cases simultaneously before us; they happened in the field almost simultaneously. They were different contractors and we decided to prosecute on one and not the other because -- and I referred to this in my testimony, because we felt that the case we did not want to prosecute through would have so damaged the fabric of the Alaska statute in question that, as far as legal precedent, that overall, we wanted a better case. So, essentially I am seconding those remarks.

Q All right and then again, that's a question of law?

THE COMMISSIONER: Well, it's a question of policy as well. It's something that people charged with the duty of determining whether prosecution should be launched will always take into account and legitimately. I don't suppose anyone disputes that.

A There's also here a bluff factor. We didn't tell the unprosecuted party that we couldn't go through with it and he was kept very scared for a reasonable amount of time and I think learned his lesson.

Q Until he found out.

MR. BAYLY: That doesn't work all that often. You can't cry wolf all the way through.

A True.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Q The seventh point made by
2 Mr. Trudeau is that the public has a right to know what
3 is happening and that the agencies responsible for
4 enforcement of regulations are doing their jobs. Dr.
5 Simmons?

6 WITNESS SIMMONS: Yes, the
7 public certainly has a right to know what is going on.

8 Q Mr. Mossop?

9 WITNESS MOSSOP: Yes, that's
10 correct. I think the area of investigation has to come
11 into this and I don't think that's what you're talking
12 about. Activity by enforcement officers during investiga-
13 tion is often kept confidential and I think that that
14 has to remain as it is.

15 Q And you're nodding your
16 head in agreement with that, Dr. Simmons?

17 WITNESS SIMMONS: Yes sir.

18 Q Yes.

19 A That's right. I had
20 assumed that you assumed the same thing.

21 Q Yes and I take the same
22 interpretation that you did of that., Go ahead Mr.
23 Mossop. Did you have anything else?

24 WITNESS MOSSOP: That's all
25 I have.

26 Q Dr. Stephen?

27 WITNESS STEPHEN: I agree with
28 both Dr. Simmons and Mr. Mossop, but the way that's
29 worded is a sweeping generalization.

30 Q That's Mr. Trudeau's fault

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 rather than mine, but if there's problems with it, please
2 tell us what they are.

3 A There are up to some stages,
4 investigations that might very well have to be kept
5 confidential and however, as you know, there's a
6 current hassle about secrecy in government and in my
7 view, in many cases that's more imagined than real.
8 So that, by and large, the public does know and is made
9 of aware of what's going on. The second part of your
10 question, I've forgotten.

11 Q The statement was that the
12 public has a right to know what is happening and that
13 the agencies responsible for the enforcement of regula-
14 tions are doing their jobs and I assume that means
15 carrying out the --

16 A I'd agree with that.

17 Q -- duties under the statute.

18 A But that again, is a
19 sweeping generalization that -- I don't know whether Mr.
20 Trudeau is talking about an employee evaluation report
21 or just the cost effectiveness debates that were carried
22 on here yesterday.

23 Q No, I think Mr. Trudeau
24 confines himself to the enforcement of fisheries
25 regulations is really interested in that area only.
26 At least, that's what he discussed in his evidence. I
27 take it though that if we had a situation with no
28 prosecutions, that it would^{be} perhaps very difficult for
29 the public to know whether or not these regulations were
30 or were not being used in any way.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A That's right.

2 Q That's the one way that
3 the public gets to know whether or not regulations are
4 being used.

5 A We don't routinely make
6 an issue of that. For example, I think it's a bad
7 practise to publicise prosecutions of hunting infractions,
8 for example. It makes some of our clients look bad.

9 Q You mean some of the
10 public?

11 A I beg your pardon?

12 Q You mean some of the public?

13 A -Well, if we're all -- if all
14 we're ever advertising is that there are bunch of hunters
15 who bag more than their limit of geese, it rubs off on
16 an entire segment of our clientel which are usually
17 law abiding. So that what we do is permit the availabili-
18 ty of court evidence.

19 Q What you're saying then
20 is that you don't avoid prosecuting for that -- or
21 going ahead with the prosection --

22 A No, no.'

23 Q -- for that reason. You
24 just don't go to the newspapers with it or issue --

25 A That's right. That's the last
26 thing we want, to tell the newspapers.

27 Q But it appears in the
28 public courtroom?

29 A That's right.

30 Q Dr. Norton?

Simmons, Mossop, Stephen
~~Norton~~
Cross-Exam by Bayly

1 WITNESS NORTON: The point
2 of public involvement or a public right to know, I
3 would carry further to public involvement in the again,
4 s lightly different perspective of the Alaskan scene. I
5 said in print that one of the shortcomings of the
6 Alaskan surveillance process is that it was not deliberate-
7 ly tuned for public input at a continuous pace. So,
8 with that, I would agree.

9 Q So, you're suggesting
10 that there must be public information because it helps
11 with the follow-through of the program.

12 A Correct.

13 Q And helps keep pressure
14 on I assume, people to do things the way they're supposed
15 to do them?
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Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A That's right.

2 Q Would you all agree with
3 that? Dr. Simmons?

4 WITNESS SIMMONS: Yes.

5 Q Mr. Mossop?

6 WITNESS MOSSOP: Yes.

7 Q Dr. Stephen?

8 WITNESS STEPHEN: Yes.

9 Q The eighth point. I'm just
10 wondering, is there any difficulty with the Court repor-
11 ters getting those answers into the transcript? So in
12 that last -

13 THE COMMISSIONER: Just let me
14 say that my impression certainly is that there has been
15 assent either by the word "Yes" being uttered or by
16 a nod, except where one of the witnesses on this panel
17 has offered qualifications, and perhaps I should add
18 that Dr. Norton has not -- I'm not suggesting that
19 except where he has spoken out that he's assented to
20 or dissented from any of these propositions. O.K.?

21 MR. BAYLY: That's fine so
22 far. I'll try and get the "yes'" and "nos" onto the
23 record if that's all right with you gentlemen.

24 Q The eighth premise put
25 forward by Mr. Trudeau was that -- and this has been
26 partly answered:

27 "The penalties presently provided for violations
28 of some legislation in the field of game
29 management are not usually deterrents for
30 offenders, and particularly -- and in particular

MOSSOP, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 for large company offenders."

2 Dr. Simmons?

3 WITNESS SIMMONS: We don't
4 often move against a large firm, but generally I would
5 agree with that statement.

6 Q Mr. Mossop?

7 WITNESS MOSSOP: I think we
8 should make a point here that when we're moving across
9 this panel at this point you enter -- you leave the
10 Territorial Governments and I can't see in the context
11 of the program that we're discussing here, the Terri-
12 torial Government/^{ever} gaining the jurisdiction to make the
13 kind of prosecutions that we're talking about for
14 instance in Alaska and talking about for instance right
15 now in terms of prosecuting large corporations and
16 what-not. The prosecutions that the Game Branch pro-
17 bably will be carrying out during pipeline construction
18 are prosecutions under the game ordinance, as it now
19 reads, and the regulations under our game ordinance
20 need to be changed to meet the pipeline probably and
21 the -- my impression is that in general the kinds of
22 prosecutions that we're carrying out now are carrying
23 adequate punishments, if you like. We're not carrying
24 out any prosecutions of the kind that I think you're
25 referring to in terms of large companies.

26 Q Yes, and that includes,
27 I assume, any game sanctuaries? This just hasn't
28 arisen in the Yukon, is that correct?

29 A You're talking about the
30 kinds of prosecutions we make in game sanctuaries?

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 Q Yes, you haven't
2 run into the situation where you've had infractions
3 by large companies you've got to concern yourself with
4 where you make one -

5 A Oh yes, we've been con-
6 cerned, but there's no charge that we can lay.

7 Q O.K., let's move onto the
8 federal domain, Dr. Stephen?

9 WITNESS STEPHEN: I agree that
10 a \$300 fine under the Migratory Birds Convention Act
11 is not a deterrent to large companies. However, I'm not
12 so sure about the Fisheries^{Act} which I believe has much
13 larger fines and every day of occurrence can be consider-
14 ed a separate prosecution.

15 Q Well, that's not the only
16 one that we're concerned with, I gather.

17 A Canada Water Act, Clean
18 Air Act.

19 Q Or Lands Act, I would
20 like to suggest to you as well. Would you agree?

21 A I'd agree.

22 Q Dr. Norton?

23 WITNESS NORTON: For the most
24 part I think it would be inappropriate for me to comment
25 on Canadian penalty systems. I did go into authority
26 and the size of the lever in my narrative form this
27 morning, and I think in the larger context of what
28 you do about correcting an infraction^{it} is very important
29 to look at the size of that level so in principle I
30 agree with this point.

MOSSOP, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 Q And in the Alaskan situation
2 was it necessary to increase the size of penalties in
3 Statutes and in regulations to accommodate this project?

4 A I don't know the answer
5 to that. As far as game or fish stock management it was
6 necessary to consider the size of a penalty in a civil
7 damage assessment to assess the size of that in relation
8 to the pinch that it would cause to the attention level
9 it would raise with Alyeska, for example.

10 Q All right. Now, the
11 ninth point is that:

12 "The greatest deterrent is usually the
13 public exposure which results from any Court
14 action or prosecution."

15 WITNESS SIMMONS: May I have
16 the first part of that again, please?

17 Q
18 "The greatest deterrent is usually the
19 public exposure which results from
20 prosecution."

21 A It's certainly an import-
22 ant deterrent.

23 Q Mr. Mossop?

24 WITNESS MOSSOP: I think you could
25 remember the discussion we had about earlier about game
26 infractions. Game infractions tend to be an odd sort
27 of creature to deal with and I think a certain amount
28 of discretion^{again} I know takes place in our branch, for
29 instance. Judging the seriousness of the offence.

30 Q So just within your

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 own jurisdiction it is a deterrent, just the public
2 exposure that this brings, you've found.

3 A For large offences, yes.
4 For minor offences I think in my opinion could backfire
5 because of the nature of wildlife offences. There's
6 a bit of what's the word -- status, if you like,
7 involved with getting away with minor game
8 infractions and being pinched on minor game infractions.

9 Q I understand.

10 A I don't know if the
11 others would agree with that or not.

12 Q Dr. Simmons, have you
13 run into that phenomenon?

14 WITNESS SIMMONS: I don't think
15 my experience is broad enough to philosophize on that.
16 I would stick by my original statement saying that
17 it would be a deterrent.

18 Q Yes. Dr. Stephen?

19 WITNESS STEPHEN: I agree, and
20 particularly with companies that have a retail marketing
21 component. I was going to mention a few, but I won't
22 bother.

23 Q Now, the tenth -- sorry,
24 Dr. Norton, with regard to that.

25 WITNESS NORTON: I agree, but
26 let it not be missed from the Alaskan situation the
27 power of the industry to cover up its own mistakes,
28 to fight back with its own P.R. machinery, and this
29 really compromises the effectiveness of public disclos-
30 ure. We have no similar -- at the government level --

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 no similar organ or mouth-piece such as advertising or
2 whatever else, so that does need to be examined. How
3 strongly can public disclosure be fought?

4 Q Now the next point made may
5 be one that is only appropriate for comment from
6 Dr. Stephen and Dr. Norton, although the others may if
7 they wish comment on it.

8 "Rather than increasing fines,"
9 says Mr. Trudeau,

10 "the Courts should order the offender to cover
11 costs of cleanup and restoration or to contribute
12 to the development of improved technology."

13 WITNESS STEPHEN: I agree.

14 Q Dr. Norton?

15 WITNESS NORTON: Yes, I agree
16 with that. The state of Alaska has committed itself
17 to no longer abide by the principle of accepting the
18 best available technology for an action, if the tech-
19 nology doesn't exist yet, the action related to the
20 environment should not proceed until that technology
21 works; and in this case the state is at variance with
22 certain federal agencies.

23 Q Do either of the other
24 panel members wish to comment on that? Mr. Mossop?

25 WITNESS MOSSOP: I can add that
26 in every case where we are approached with that problem
27 we advocate cleanup by an independent body, the govern-
28 ment, if you like, with payment by the offender.
29 Slightly different twist.

30 Q Dr. Simmons?

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 WITNESS SIMMONS: I've not
2 experience in this.

3 Q The 11th point is that,
4 "The same standards and conditions should apply
5 to every operator, regardless of affiliation,"
6 and again we should perhaps start with Dr. Stephen.
7 This arose in the context of Mr. Trudeau's evidence that
8 Crown corporations and Federal Department s should be
9 treated the same as any other operator in an area.

10 WITNESS STEPHEN: I believe
11 that's true. I believe that's the practice.

12 Q Dr. Norton?

13 WITNESS NORTON: Yes, reference
14 my discussion of double standard.

15 Q And did you want to comment
16 on that too?

17 WITNESS MOSSOP: I have no
18 comment.

19 Q Dr. Simmons?

20 WITNESS SIMMONS: That's the
21 way we operate, yes.

22 Q And you'd agree that that
23 is the way to operate? That's a "Yes".

24 Now, the 12th point is that:

25 "The enforcement of regulations and standards
26 strives for the best possible degree of
27 compliance, given a certain amount of effort
28 in the enforcement field and that this can
29 approach but probably never achieve 100%."

30 Dr. Simmons?

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A I didn't get
2 that entirely.

3 Q This is a point that
4 arose in the context of the number of enforcement offi-
5 cers that would be required to do an enforcement job
6 properly, and in recommending, Mr. Trudeau suggested
7 that

8 "The enforcement of regulations and standards
9 strives for the best possible degree or 100%
10 compliance, but it is unlikely to be achieved
11 just by the addition of enforcement officers."

12 A I would certainly agree
13 with that. When we find ourselves stretched thin in
14 that area we employ other means of solving the problem
15 along with our enforcement effort.

16 Q What would some of those
17 be?

18 A Well, we are perhaps able
19 to intensify our education efforts to gain the co-
20 operation through consultation meetings with the public in
21 a certain area.

22 Q Do you do that only where
23 you spread thin?

24 A We should do this all the
25 time but we intensify this effort in areas where we are
26 spread thin. This is awfully big country and we can
27 use the media successfully with a more efficient expenditure
28 of manpower.

29

30

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Q Right. Mr. Mossop?

2 WITNESS MOSSOP: I think in
3 the case of the Yukon Territory, the immediate response
4 should be an increase in the number of enforcement
5 personnel. I think that's the answer I would like to
6 give.

7 Q That doesn't mean that
8 you are going to get a hundred percent compliance with
9 regulations though but perhaps that you will have it
10 under control?

11 A No, I'm just saying that
12 that's the next step we should be taking in the
13 Territory.

14 Q Yes. Dr. Stephen?

15 WITNESS STEPHEN: I don't
16 think you'll ever get a hundred percent compliance.
17 There's a law of diminishing returns that sets in
18 there and that's been amply demonstrated by studies made
19 by law enforcement agencies --combinations of information,
20 visible patrols and invisible patrols; that is, plain-
21 clothes men and things of that sort often have more
22 payoff than simply adding more warm bodies to make
23 Christians out of the heathens.

24 Q And you have looked into
25 this, I take it, from the point of view of your own
26 enforcement responsibilities?

27 A That's right.

28 Q Dr. Norton?

29 WITNESS NORTON: I agree with
30 the point.

Simmons, Mossop, Stephen, Norton.
Cross-Exam by Bayly

1 Q Right. The thirteenth
2 point is that, "the high cost of northern operations
3 included with weather problems may act as incentives to
4 industry to proceed as quickly as possible and under
5 such circumstances they may be expected to cut back on
6 environmental safeguards and it is therefore essential
7 to maintain the enforcement effort if the
8 environment is to be protected."

9 WITNESS SIMMONS: I would agree.

10 WITNESS MOSSOP: Yes, I agree.

11 WITNESS STEPHEN: I would
12 agree.

13 WITNESS NORTON: I would agree
14 and amplify that because of the unattractiveness for
15 a habitation by many industry people. They're seasonally
16 there only very often and therefore they are not making
17 a nest in which they have to sleep. So their
18 involvement and this is not only industry --this is
19 government as well. Their involvement at a personal
20 stake level isn't as high in the far north as it would
21 be in temperate latitudes and it's a very important
22 principle.

23 Q The last point is that,
24 "specific black and white regulations are perhaps the
25 easiest for enforcement officers to enforce but with
26 regard to the environment they do not always adequately
27 cover and deal with the necessary problems?"

28 WITNESS SIMMONS: I would
29 agree.

30 WITNESS MOSSOP: Yes, it's very

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 true.

2 WITNESS STEPHEN: I would agree.
3 but I think that a lot of quantification can be done.
4 And I'm sure this Inquiry will make those quantifications
5 particularly in terms of end points. I think that's an
6 important point to make.

7 Q Will you tell us what an
8 end point is?

9 A Stop time -- an
10 absolute, such as the requirement for certain kinds of
11 pads on caterpillar tractors -- crawler tractors, that
12 kind of thing.

13 Q -You are suggesting that
14 there may be a latitude for approximating these things
15 if they can't get a certain brand, if they get one
16 that --

17 A In any point, an absolute
18 is a requirement for a mushroom shoe on a crawler
19 tractor. They are either there or they are not there.

20
21 Q Right.

22 A And that's an end point.

23 Q Okay, I understand. Dr.
24 Norton?

25 WITNESS NORTON: Sorry, I
26 missed the very beginning of what this point was.

27 Q The point is that, "the
28 easiest regulations to enforce are those which are
29 black and white but that they don't adequately deal
30 with all the kinds of situations you run into with

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 environmental regulation enforcement?"

2 A Very true.

3 Q Now, Mr. Mossop, on page
4 15 of your evidence, you propose that the applicant
5 should police his own personnel and associates and that
6 the pipeline construction should be regulated by a
7 federal agency, yet on page 14, you mention needing
8 a semi-permanent biologist and technician as well as
9 enforcement personnel during pipeline construction.
10 Is that only for dealing with hunting and harassment?

11 WITNESS MOSSOP: That's correct,
12 yes. The staff member, I think you are referring to is
13 the sort of mobile staff that we would envision busying
14 itself most directly with the actual construction -- is
15 at the corridor -- the activity going on in the corridor.
16 Their responsibilities would still be to monitor wildlife
17 population -- the way we envision it.

18 Q He would monitor -- excuse
19 me -- in the sense of a watcher rather than a monitor
20 who has a responsibility for regulations, is that correct?
21 Does he fill that position?

22 A For responsibilities of
23 special regulations regarding the pipe is what I think
24 you mean, and the answer to that is "no".

25 Q All right. A federal
26 agency would take care of that. Your man would be there
27 to say, "there appears to be some interference with that
28 population of caribou and we should -- we should study
29 that to see what is going on."

30 A Yes, we could presumably

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 have that role, yes.

2 Q But you wouldn't see
3 that person walking up to the federal agency or the
4 pipeline company and saying, "stop --

5 A No.

6 Q -- because you are inter-
7 fering with what those caribou are doing?"

8 A No, no.

9 Q Is it because you don't
10 want to do that or is it because you don't think that
11 it's likely that you will be permitted to?

12 A I think it's a little
13 of both. We're thinking -- I think we spend most of
14 our time contemplating the post construction era where
15 we are going to have to be a managing agency in the
16 Northern Yukon. We're going to have to be by that
17 point developed as a competent, hopefully managing
18 agency and deal with special regulations regarding
19 construction, I think, you know, would require a much
20 larger organization which hopefully will not remain
21 as a tradition or as a piece of bureaucracy later on
22 but will disappear and what's left is the Yukon
23 Game Branch managing the wild life in the Yukon, given
24 the added facilities and access that the pipe is going
25 to produce.

26 Q And what did you have in
27 mind when you said that the pipeline people should
28 police their own personnel? Especially in light of
29 what Dr. Norton has told us about firing people for
30 certain infractions -- say, feeding animals?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A It's a suggestion that
2 I think has -- in looking at it again -- has problems
3 in it. I would agree with you. All I was really doing
4 was suggesting that we weren't interested in watching
5 that sort of thing on site and somebody should do it
6 besides the Yukon Game Branch and -- there probably will
7 always be activity that the company will have to police
8 itself.

9 Q I can see that. We
10 ran into some problems with that when we had Mr. Peet
11 here last -- the week before last and this may be some-
12 thing you want to comment on too, Dr. Simmons. He said
13 that it would be very nice if the companies would
14 cooperate and make their own regulations, but when it
15 came to doing things like denying them the right to
16 hunt, that the government couldn't really do that. He
17 was talking about fishing, but that they couldn't say
18 that if you fulfilled the qualifications and you are a
19 citizen, that you can't have a fishing licence or a
20 hunting licence because you work for the Arctic Gas
21 Company?

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Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 WITNESS SIMMONS: That is cor-
2 rect. We would have to attack the problem as a Northwest
3 Territories problem through our Game Ordinance.

4 Q So you would have to do
5 the sorts of things that you may have already started
6 like reducing the quota for resident hunters without
7 general hunting licenses and in possibly increasing the
8 length of time of residency to qualify for those
9 privileges?

10 A That's correct.

11 Q Would you see that as
12 the kind of tool that you'd have to use in the Yukon
13 as well, Mr. Mossop?

14 WITNESS MOSSOP: Yes, I think
15 that would apply, yes.

16 Q You'd agree with Mr.
17 Peet though that if the person had the qualifications,
18 that you couldn't deny him a permit simply because he
19 was employed by a certain company?

20 A Yes, I agree it's a problem
21 that needs to be looked at, yes.

22 Q I suggest to you, it's
23 something that has to be looked at in advance of the
24 introduction of a large number of people into the
25 territory?

26 A That's correct.

27 Q You'd agree with that,
28 too, Dr. Simmons?

29 WITNESS SIMMONS: Yes, I would.

30 Q Now, Mr. Mossop, if the

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 pipeline were to traverse the Yukon parallel with the
2 Alaska highway, would you have the same reservations
3 about the capabilities of your branch to react to those
4 problems over which you have jurisdiction?

5 WITNESS MOSSOP: Again, I
6 would just restate what I said about not knowing what
7 is involved with building a pipe parallel to the Alaska
8 highway.

9 Q Well all right, well let's

10 A For instance, is it going
11 to built ten miles from the highway? Is it going to
12 built on the highway, in the ditch? We don't know what
13 is involved. The response wouldn't be nearly as
14 expensive, but I've never made an analysis about whether
15 we could respond to it or not.

16 Q So you wouldn't want to
17 say anything unless you knew how far away it was going
18 to be?

19 A That's right.

20 Q If I were to suggest to
21 you as a possible scenario that it was going to be
22 within a couple of miles, would that make your job
23 any easier?

24 A Easier than the North
25 Slope?

26 Q Yes.

27 A Definitely, yes.

28 Q And easier than the
29 interior route?

30 A The interior route being -

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Q That one which goes
2 eventually through the Old Crow area?

3 A Oh, definitely, yes, yes.

4 Q Again, a question for
5 the panel in turn. I want to suggest that the following
6 is a major objective of your game management programs.
7 That is that it is important to maintain a harvestable
8 surplus of birds or mammals. Do you agree that that's
9 an objective of your office Dr. Simmons?

10 WITNESS SIMMONS: Yes, I do.

11 Q Dr. Mossop -- Mr. Mossop?

12 WITNESS MOSSOP: Yes, that's
13 one objective. we --

14 Q I'm not suggesting it's
15 the only one.

16 A That is an objective, yes.
17 But it doesn't apply to all wildlife under our juris-
18 diction, no. The way it's stated is for the use, if
19 you like of the -- instead of harvest. Not all animals
20 are harvested.

21 Q Right. Dr. Stephen?

22 WITNESS STEPHEN: I'd agree
23 with Mr. Mossop that it's not a single objective.

24 Q All right. Assuming
25 that it is one of the objectives of all of your offices,
26 I want to suggest to you that the following three
27 priorities are kept in mind by all of you in following
28 that objective. First that you want to be able to
29 maintain sufficient population of whatever the species
30 is to permit subsistence harvest by native peoples.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Second, to maintain sufficient
2 population to permit harvest for resident hunters and
3 third, to maintain sufficient population for non-resident
4 hunters. I'm suggesting to you that those are in that
5 order of priority. Can you comment on that please,
6 Dr. Simmons?

7 WITNESS SIMMONS: Well, taking
8 that in isolation, dealing only with hunting or harvest,
9 I would agree that that is our set of priorities.

10 Q Mr. Mossop, is that yours?

11 WITNESS MOSSOP: I think I
12 would say yes, that that is our priority although it in
13 Yukon Territory isn't necessarily stated that way.

14 Q It's not a secret, it's
15 just that you don't talk about it or you don't think of
16 it as a policy. It's just in your own mind you would assume--

17 A It is definitely the way it works,
18 it's definitely the way it works in the Yukon Territory
19 and what we're talking about here are categories two
20 and three; the native people and the resident, which
21 I think it's definitely the way it happens in the Yukon
22 Territory. The priority goes exactly as you stated it
23 with an unstated area in the middle there, between two
24 and three.

25 Q Dr. Stephen, yours may
26 be a bit different. You have --

27 WITNESS STEPHEN: Yes they are.

28 Q -- a bigger clientel, as
29 you call it. Can you tell us what they would be?

30 A Not necessarily in order

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 of priority, but the priorities would be subsistence
2 hunting, recreation for Canadians, both from hunting
3 and other forms of the use of migratory birds and we
4 make the assumption that provision of sustainable yield
5 for subsistence and recreational hunting will also
6 assure other forms of use and we have international
7 obligations under the Migratory Birds Convention, to
8 provide similar kinds of activities. That is, sub-
9 sistence hunting and recreation from hunting and recreation
10 from other uses of migratory birds.

11 Q O.K. and let's now divide
12 the migratory birds off from the other species which
13 concern your office. Do you have a different set of
14 priorities with regard to say, caribou in the Northwest
15 Territories, for example?

16 A Caribou in the Northwest
17 Territories example is essentially the priorities of
18 the Northwest Territories Government where we worked
19 with them on a cost share basis. Our other work
20 in national parks is fully recoverable from Parks
21 Canada and they tell us what their priorities are and
22 we do what work is required. Some of our other work
23 on rare and endangered species like peregrine falcons,
24 is done in cooperation with provinces and territories
25 and really is a research activity where the truth
26 is the objective.

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Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

Q I understand that there are other objectives and I didn't want to suggest that you didn't have them. It's just that I was zeroing in on this particular one with regard to harvesting of certain species. Now, in this list of objectives --

A Can I add to that?

Q Certainly.

A Another good example would be polar bears where the objective has these management orientations and that is done in co-operation with the Yukon Territory, Northwest Territories, Province of Manitoba, Province of Quebec, and Province of Ontario, and Province of Newfoundland and our objective there again is management to provide a sustainable yield but it's not really for recreation purposes and it's not really for subsistence because in the sense that the meat is not usually eaten.

Q All right, and one thing you appear to have left out, if I recall the evidence of Dr. Stirling, that is that there is co-operation --

There's
A /an International Convention on the management of polar bears.

Q Yes.

A With the U.S.S.R., the U.S.A., Canada, Norway and Denmark.

Q So you're concerned with the circumpolar --

A Circumpolar species.

Q -- populations.

1 Q Now, in this list we don't
2 see the right, if we can call it that, of industry to
3 any part of the harvest, and yet I invite you to agree
4 with me that industry's activities may interfere with
5 the objective to maintain a harvestable yield for the
6 three reasons that I've outlined. Would you agree with
7 me as far as that, Dr. Simmons?

8 WITNESS SIMMONS: I would agree
9 that the activities of industry could certainly inter-
10 fere with one of those three goals. I would balk at
11 your preamble to your statement. We're talking about
12 residents or non-residents in the Northwest Territories.

13 Q I'm thinking of
14 companies as opposed to the individuals to participate
15 in the harvest, whoever they are.

16 A Certainly yes.

17 Q Mr. Mossop?

18 WITNESS MOSSOP: I think that's
19 right on.

20 Q Mr. Stephen?

21 WITNESS STEPHEN: I assume you're
22 talking about the petroleum industry and --

23 Q And maybe the mining
24 industry as well but let's for now, because we're in a
25 pipeline Inquiry, talk about the petroleum industry.

26 A The industry may also be
27 affected by the resource. Occasionally polar bears
28 eat people.

29 Q So the impact of polar
30 bears on people as opposed to people on polar bears

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 is something that's significant as well.

2 A I just thought that point
3 should be made.

4 Q Right.

5 THE COMMISSIONER: Well, that
6 may be a good point at which to adjourn.

7 MR. BAYLY: All right.

8 THE COMMISSIONER: How much
9 longer will you be? I'm concerned that if you're not
10 going to be much longer we can carry on and these
11 gentleman can then -- some of them being from out of
12 town -- return to their lawful pursuits.

13 MR. BAYLY: I don't really
14 think there's any chance of that, sir. I would anti-
15 cipate another hour to hour and a half. I have Mr.
16 Nicol here ready to go on immediately after the M.O.T.
17 witness, who is to be called by Commission counsel.

18 THE COMMISSIONER: All right.
19 Well, the evidence of this panel is extremely useful
20 and I think it's better that we should all be fresh in
21 the morning when we carry on with it rather than try
22 to get it all in this evening.

23 So after this panel we'll have
24 the M.O.T. panel, will we?

25 MR. GOUDGE: There is one
26 witness from the M.O.T. that will followed by Mr.
27 Bayly's witness on the oil spill.

28 MR. BAYLY: Should we start
29 at nine rather than 9:30 tomorrow, sir? I'm in your
30 hands, it's just a suggestion.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 THE COMMISSIONER: Well, I really
2 don't buy that. So -- we're not in a flaming rush so
3 let's adjourn until 9:30 in the morning.

4 (PROCEEDINGS ADJOURNED TO APRIL 7, 1976)
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347
M835
Vol. 138

AUTHOR

Mackenzie Valley pipeline inquiry:

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Vol. 138 6 April 1976

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347
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Vol. 138

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MACKENZIE VALLEY PIPELINE INQUIRY

Government
Publications

IN THE MATTER OF APPLICATIONS BY EACH OF

- (a) CANADIAN ARCTIC GAS PIPELINE LIMITED FOR A RIGHT-OF-WAY THAT MIGHT BE GRANTED ACROSS CROWN LANDS WITHIN THE YUKON TERRITORY AND THE NORTHWEST TERRITORIES, and
- (b) FOOTHILLS PIPE LINES LTD. FOR A RIGHT-OF-WAY THAT MIGHT BE GRANTED ACROSS CROWN LANDS WITHIN THE NORTHWEST TERRITORIES

FOR THE PURPOSE OF A PROPOSED MACKENZIE VALLEY PIPELINE

and

IN THE MATTER OF THE SOCIAL, ENVIRONMENTAL AND ECONOMIC IMPACT REGIONALLY OF THE CONSTRUCTION, OPERATION AND SUBSEQUENT ABANDONMENT OF THE ABOVE PROPOSED PIPELINE

(Before the Honourable Mr. Justice Berger, Commissioner)

Yellowknife, N.W.T.

April 7, 1976.

PROCEEDINGS AT INQUIRY

Volume 139

CANADIAN ARCTIC
GAS STUDY LTD.

APR 15 1976

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E R R A T A

By W.J. Stephen:

Volume 138, p. 20998, line 5 - add "Service" to

read "Fisheries and Marine Service."

line 6 - delete "as part of Service"

line 21 - add "a small mass"

delete "mess" , to read

"and totally a small mass"

line 3 - insert "or to take part

in that" before "our approach would be"

line 4 - delete "our approach

would be".

p. 21060, line 14 - delete "prosecution";

substitute "offence"

p. 21068, line 17 - delete "point";

substitute "event"

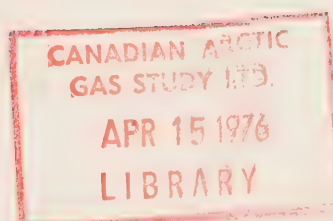
p. 21076, line 19 - change "share" to "shared"

p. 21077, line 10 - change "these" to "those"

line 11 - insert "work" after "that"

line 17 - delete "because"

347
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16/137



1 APPEARANCES:

- 2 Mr. Ian G. Scott, Q.C.,
3 Mr. Stephen T. Goudge,
4 Mr. Alick Ryder and
5 Mr. Ian Roland for Mackenzie Valley Pipeline
6 Inquiry;
- 7 Mr. Pierre Genest, Q.C.,
8 Mr. Jack Marshall,
9 Mr. Darryl Carter, and
10 Mr. J.T. Steeves, for Canadian Arctic Gas Pipeline
11 Limited;
- 12 Mr. Reginald Gibbs, Q.C.,
13 Mr. Alan Hollingworth, and
14 Mr. John W. Lutes, for Foothills Pipe Lines Ltd.;
- 15 Mr. Russell Anthony,
16 Prof. Alastair Lucas and
17 Mr. Garth Evans for Canadian Arctic Resources
18 Committee;
- 19 Mr. Glen W. Bell and
20 Mr. Gerry Sutton, for Northwest Territories
21 Indian Brotherhood, and
22 Metis Association of the
23 Northwest Territories;
- 24 Mr. John Bayly and
25 Miss Leslie Lane for Inuit Tapirisat of Canada,
26 and The Committee for
27 Original Peoples Entitle-
28 ment;
- 29 Mr. Ron Veale and
30 Mr. Allen Lueck for The Council for the Yukon
Indians;
- Mr. Carson H. Templeton, for Environment Protection
Board;
- Mr. David Reesor, for Northwest Territories
Association of Municipalities;
- Mr. Murray Sigler, for Northwest Territories
Chamber of Commerce;
- Mr. John Ballem, Q.C., for Producer Companies.

I N D E XPage

WITNESSES FOR MACKENZIE VALLEY PIPELINE INQUIRY:

D.H. MOSSOP	
Norman M. SIMMONS	
W.J. STEPHEN	
David W. NORTON	
- Cross-Examination by Mr Bayly (cont)	21081
- Cross-Examination by Mr. Carter	21169
- Re-Examination	21173
- Re-Cross-Examination by Mr. Bayly	21177
M.A. HEACOCK	
- In Chief	21179
- Cross-Examination by Mr. Carter	21188
- Cross-Examination by Mr. Bayly	21193
- Cross-Examination by Mr. Hollingworth	21196

WITNESSES FOR C.O.P.E.:

C.W. NICOL	
- In Chief	21204
- Cross-Examination by Mr. Veale	21262

EXHIBITS:

545 Letter Imperial Oil Ltd. to DIAND, August 13, 1974	21097
546 Letter, C.S. Alexander to C.H. Templeton April 25, 1974	21110
547 Report on Trans-Alaska Pipeline re planning for regulation of construction of M.V.P.L. dated May 30, 1975	21138
548 Report "Oil Exploration & the Bankslanders" by Simmons & Barry, April 23, 1975	21141
549 Qualifications & Evidence of M.A. Heacock	21198
550 Qualifications & Evidence of C.W. Nicol	21250

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

Yellowknife, N.W.T.

April 7, 1976.

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

D.H. MOSSOP
NORMAN M. SIMMONS
W.J. STEPHEN
DAVID W. NORTON, resumed:

CROSS-EXAMINATION BY MR. BAYLY (CONTINUED):

Q When we left of yesterday we were discussing the possibility that industry may affect habitat and therefore affect the harvestable game and birds, or animals and birds, and I think you agreed with me that it's possible, because of their activities, that it may be impossible to follow the three points in the objective that I've asked you to comment on. That is that you might have to curtail non-resident sports hunting, resident sports hunting and subsistence hunting if populations were caused to decline by a combination of those activities and industrial activities. I ask if you agree with that. Dr. Simmons?

WITNESS SIMMONS: Yes, I do.

Q Mr. Mossop?

WITNESS MOSSOP: Yes, it could happen.

Q Dr. Stephen?

WITNESS STEPHEN: If Bill CA-3 passes, it might be no problem.

Q Well, gun legislation aside --

A We really haven't made up

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

-- as you know, there are negotiations going on about subsistence hunting and we have not come to any clear conclusions on it.

Q Well, let's take an example then, Dr. Stephen, that's in your realm. Right now in the Western Arctic there are quotas on the number of polar bears that can be killed by native hunters. They put pressure on the polar bear population, but we have seen that industry puts pressure on the population as well because nuisance bears have been destroyed, nuisance bears being ones that are around camps and installations. You'd agree with that?

A Yes, but I don't think it's significant.

Q All right, but let's assume that we go the next step and we have an increase in activities. It may be necessary, would you agree, to re-assess the quotas?

A Yes, but you're talking about two or three bears being killed by industry and you're talking about a quota of something in the order of 250 in total, out of a population of 20,000 estimated polar bears.

Q Well, I understand we're looking at more than two or three bears per year that have to be destroyed because they come into contact with man. It's more like 18 or 20 a year.

A In total.

Q Yes.

A You must be including

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 Churchill, Manitoba, in that.

2 Q You'd disagree with that
3 figure for the Western Arctic?

4 A That's not my impression
5 of the number.

6 Q What is the number?

7 A I don't know what it is,
8 but I know that our own employees have to kill bears
9 occasionally. It would be something in the order of
10 maybe 10, in total.

11 Q All right. Let's assume
12 that we have a large number of camps along the North
13 Coast, a large number of offshore islands and drilling
14 offshore. Can you conceive of a situation where enough
15 bears would have to be destroyed that you'd have to
16 look at the quotas again?

17 A No, I think you'd handle
18 that in the same way you'd handle a situation at
19 Churchill where hundreds of bears pass through the
20 town every year, and you have a bear alert and nuisance
21 bears are trapped and carried away in helicopters, ^x marked
22 and if they return, then they're killed.

23 Q So you think that's not
24 a problem?

25 A I think it's a manageable
26 problem.

27 Q All right, and we've heard
28 Dr. Stirling say that he thinks that perhaps the present
29 quotas that are in force in the Western Arctic may be
30 too high for the present population. He's given that

Mossop, Simmons, ~~Stephen~~, Norton
Cross-Exam by Bayly

1 evidence in Inuvik. Do you agree with that evidence?

2 A That's right. He has
3 conducted several years of research and his final
4 reports are not in yet, but I think that in certain
5 geographic areas that there may have to be some adjust-
6 ments made in quotas.

7 Q And you don't think that
8 that will change with pressure put on them by industry
9 installations that are related to this pipeline?

10 A It could, but as I say
11 I think it's a manageable problem.

12 Q All right, but managed
13 differently from the way it's being managed now.

14 A Yes.

15 Q We're not trapping bears
16 now. They are being killed if they become a nuisance,
17 isn't that correct?

18 A That's right, it's either
19 kill or be killed.

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Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

Q Now, we have heard in the evidence from various people that there have been changes in habitat that people in the Canadian Wildlife Service have not been particularly happy with. Some of these have been ⁱⁿ bird sanctuaries and some of them have not. Let me ask for your comments, Dr. Stephen on the following situation that occurred with regard to the Garry Island sand spit. Are you aware of the situation that I'm talking about, that Dr. Barry brought up in his evidence?

A You'd better be a little bit more specific than that.

Q Now, as I understand, Imperial Oil had a gravel dredging operation off Garry Island which was the subject of land-use permits N-74, A754 and N-74-A 790, and we heard from Dr. Barry evidence with regard to this operation, and that's at page 18572 of the transcript I'm following, and at 18572 with regard to the question in general, Dr. Barry said:

"We 've had a running battle with them --" referring to the oil companies:

"-- the problem is the source of granular material" On the next page, he says that, "the Adgo site, they did take some gravel from the end of the spit," referring to the Garry Island spit, "or it's really a gravel island off Garry Island. I forgot the amount, I think it was 100,000 cubic yards. I could be wrong on that, but a fair amount anyway.

During that winter we complained bitterly about it

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 It was a governmental oversight I think that allowed
2 them to get the permit to take it in the first
3 place, but that's not the matter of the discussion.
4 They replaced it a lot the next -- during the
5 winter.

6 They trucked it and piled a lot of gravel on
7 there and then eventually removed that and took a
8 little extra at the same time so that place is in
9 rather difficult straights."

10 Are you acquainted with the situation now, sir?

11 A Yes. Sorry.

12 Q I just wanted to get
13 that on the record. Now, as I understand that the
14 island that they were actually building was not Adgo
15 but was Netserk B-44 and I have a copy of the permit
16 here and this is a land use permit, and the conditions
17 of that permit I'll read one of them to you.

18 Under the heading "Operating
19 Conditions", the third condition, 3-B:

20 "Should deviation from the preliminary plan
21 be required while conducting the operation, the
22 operator must obtain written approval from the
23 engineer."

24 and the CWS was part of that Land Use Advisory Committee
25 as I understand that helped make up this permit and
26 permit the operation, is that correct?

27 A We were one member on that
28 committee that's right.

29 Q Yes, and it was contemplated
30 that gravel wouldn't be taken from that spit but that it

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 would be taken from the bottom of the sea. Is that
2 your understanding?

3 A I don't know.

4 Q But you're acquainted
5 with the fact that they took gravel from the spit that
6 they --

7 A You just read that out.

8 Q From Dr. Barry's evidence,
9 yes. You don't know anything about that apart from
10 what I've just read to you?

11 A Other than that island
12 is eroding naturally. Sort of floating westward with
13 the tides and currents and sort of eroding from the
14 eastern side and adding to the western side.

15 Q All right. Well, my
16 understanding is that written permission to take gravel
17 was never sought or obtained.

18 They ran into an emergency,
19 according to Imperial Oil, and took gravel from the
20 bottom -- from the sand spit following a phone call
21 asking if it was all right to do so. Is that your
22 understanding of it?

23 A I'm unaware of that.

24 Q Right. But that would
25 be something that might be under your Wildlife Service?

26 A We have no jurisdiction
27 over gravel offshore and as you've pointed out, we
28 have one member on an advisory committee which has many
29 members, and I don't think they vote but reach consensus
30 on a recommendation to made to a permitting agency.

Simmons, Mosson, Stephen, Norton
Cross-Exam by Bayly

1 Q Well, are you satisfied
2 with that?

3 A I noticed Tom Barry has
4 argued long and loud with engineers who say, "Well,
5 there are no birds there now", and Tom says "Yes, but
6 they're there in the spring and summer".

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1 Q So members --

2 A Our rule is one of
3 persuasion in that instance.

4 Q All right, but you share
5 Dr. Barry's concern with removal of gravel from an
6 area, despite the fact that you may not have any permit-
7 ting jurisdiction over it.

8 A That's right.

9 Q You're worried about the
10 birds there.

11 A In this case it's mostly
12 gulls.

13 Q Right, they're birds.
14 As I understand, when Imperial Oil ran into this
15 problem, they wrote to the Department of Indian
16 Affairs about the miscalculation that they had had.
17 I have a copy of that letter here, and I want to read it
18 to you and invite your comments as to whether this is
19 a situation you would contemplate arising in the con-
20 struction of the pipeline if there are miscalculations,
21 and whether this is the method in which things like
22 this should be handled. The letter is dated August
23 13, 1974, it's from Mr. C.R. Rankin, Land Operations in
24 Imperial Oil to the attention of Mr. J. Cunningham,
25 re Imperial Netserk B-44, and the land use permits are
26 quoted by number.

27 "This will confirm our telephone conversation on
28 August 12, 1974 wherein we informed you that we
29 have experienced a shortage of granular material
30 in the dredging area off the north-east side of

1 Garry Island. As already explained, the reason
2 for the shortage of gravel stems from a miscalcu-
3 lation or misinterpretation of bottom sampling
4 that was done in the area. You will recall too
5 that I said it was our intention to obtain
6 further granular material from the borrow pit
7 that we used when constructing the Immerk Island.
8 It was our hope early last week to make arrange-
9 ments with your group to obtain approval for a
10 quarrying permit on the spit off the north-east
11 end of Garry Island so that we could use the
12 gravel material in the event of an emergency.
13 However, the emergency arose much sooner than
14 we had anticipated, because in order to utilize
15 the granular material at Immerk, some ten feet
16 of silt overburden has to be first removed.
17 This then placed our total program in jeopardy.
18 On Saturday, August 10th, a decision was made by
19 our on-site personnel that we would have to obtain
20 some additional granular material off the north-
21 east end of the spit which lies to the north-east
22 of Garry Island, so as not to jeopardize the
23 construction program. An on-site inspection had
24 already been conducted by Mr. Rob Owens of
25 F.F. Slaney & Company to determine the importance
26 of the spit to the wildlife. No evidence of
27 bird nesting was found on the north-east end of
28 the spit, and some gull nesting was evident on
29 the south-east, south-west end of the spit.
30 The suitability of the granular material was

1 inspected early Saturday morning and was found
2 to be satisfactory for our requirements. It was
3 thought that we could move a clamshell mounted on
4 a barge^{to} within a reasonable distance of the
5 shoreline, and from the barge load other
6 barges with granular material. This proposal
7 was conveyed to Dr. Wayne Speller in Yellowknife,
8 who offered no objections to the proposal except
9 that we should do whatever we could to maintain
10 the integrity of the spit. He also requested
11 that we contact Fisheries Department to make
12 sure they had no objection. I contacted Mr.
13 Hugh Trudeau on Saturday, August 10th, and
14 informed him of our emergency situation and our
15 plan to continue the island construction
16 program. He saw no difficulty with our proposal
17 but did, however, suggest that we notify Mr.
18 Jim Hunt in Inuvik so that he could inspect
19 the operation when he was next in the area.

20 Please find attached an
21 application in duplicate for a quarrying
22 permit for 100,000 yards of sand and gravel,
23 which is the approximate amount that we will
24 require in order to complete the construction
25 of the artificial island. We also attach
26 our cheque in the amount of \$1,002, which is
27 the 10¢ royalty fee per yard, plus a \$2.00 appli-
28 cation fee. It would be appreciated if you
29 would issue the quarrying permit as soon as
30 conveniently possible, inasmuch as the operation

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 now involves a land surface area, it would
2 be, ^{greatly} appreciated if you would amend land use
3 permit No. N-74A754 to cover the activity
4 on the land surface on the spit which lies
5 north-east of Garry Island. Should you require
6 any further information, please advise.

7 Your continuing co-operation is greatly
8 appreciated.

9 Yours very truly,"

10 Now, I invite you to comment on that kind of emergency
11 situation, and first of all to tell me whether you feel
12 this is something we're going to be facing more and more
13 with construction of pipeline ^{and} related facilities, and
14 if this is the appropriate way to deal with it?

15 A I think the first answer
16 is that as you have more and more operations, you will
17 have more and more situations of that nature. Second
18 comment is that I would ~~concur with Dr. Speller's~~
19 response; and third, I believe the name of the fisheries
20 officer is John Hunt, not Jim.

21 Q It is, I was just quoting the
22 letter. All right, quite apart from whether any
23 harm was done and whether Dr. Speller was right or not,
24 it appears that he was phoned and asked to give an
25 opinion on the day that the gravel was removed and he
26 was faced with a company with an expensive emergency,
27 and is this the kind of position you want your people
28 to be in when these kinds of decisions have to be
29 made?

30 A Preferably not, but

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 if you're in a crunch situation you have to face it.

2 Q If a pipeline is going
3 to cost \$2 million a day to construct, are we not going
4 to face a crunch that is continuing; every decision is
5 going to cost a tremendous amount of money, every delay
6 is going to be very expensive. You'd agree with me
7 there?

8 A That's right.

9 Q And so that it will always
10 be possible for the pipeline constructors to say,
11 "This is a very expensive situation and we want a
12 decision from you right now." You anticipate
13 facing more of these types of things, you've said?

14 A I would hope they would
15 be minimized, but I expect that there will be more
16 situations of that nature.

17 Q And the concern that I
18 have is how prepared is the Canadian Wildlife Service
19 to say, "No."

20 A We're prepared to say
21 "No."

22 Q All right now in this
23 case --

24 A In this case we had no
25 jurisdiction.

26 Q All right, but you are
27 prepared to offer a "no" opinion even if you don't have
28 permitting jurisdiction?

29 A That's right.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 THE COMMISSIONER: Prepared to
2 offer what?

3 MR. BAYLY: A "No" opinion, that
4 is an opinion --

5 A A negative opinion is
6 what he means.

7 Q Now, before we leave this,
8 this is perhaps out of your realms of jurisdiction, but
9 I'd like to know if either Mr. Mossop or Dr. Simmons
10 would care to comment on this kind of situation and the
11 ability of your services to face emergencies of this
12 nature.

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1 WITNESS MOSSOP: I really
2 can't add anything to what's been said.

3 Q Dr. Simmons?

4 WITNESS SIMMONS: I'd rather
5 defer comment until I'm faced with specific questions
6 in my jurisdiction.

7 Q O.K. Dr. Norton, is this
8 the kind of problem that you found JFWAT was faced with
9 from time to time?

10 WITNESS NORTON: It sounds all
11 too familiar.

12 Q Was it a frequent kind of
13 occurrence?

14 A All too frequent.

15 Q How do you respond to these
16 sorts of things? Would you have any recommendations that
17 you'd share with us?

18 A Well, lacking in real
19 habitat protection powers or authority would seem to be
20 the biggest roadblock to anybody with wildlife habitat
21 interests at stake, to actually implementing a policy
22 of giving the negative answer, not just an opinion but --
23 now, there is a point beyond which the urgent crunch
24 for granular materials just won't cut it with wildlife
25 habitat. So, I don't -- I wouldn't want to spend all
26 the time designing a surveillance apparatus for you here,
27 but it's a difficult problem to be faced with the insistence
28 of industrial dictates and stare them down. It's not
29 easy.

30 Q Right.. Back to you Dr.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Stephen. Would you like to see a wider jurisdiction
2 either in the CWS or whoever would be involved in the
3 surveillance and regulation of pipeline activities so
4 that if there were an occasion when you wanted to say "no"
5 that that "no" would have some teeth behind it?

6 WITNESS STEPHEN: I think we
7 have plenty of teeth right now in -- as far as migratory
8 birds are concerned in the Wildlife Service, and other
9 elements of Environment Canada have legislation such
10 as the Canada Water Act, Clean Air Act, new legislation
11 on Environmental Contaminants Act; which I think could
12 be applied.

13 Q All right. We got that
14 condition that I read to you out of the permit that says
15 that you should get written approval from the engineer
16 if you want to make any changes in your plans, if you're
17 an industry doing work under a land use permit. Is that
18 a regular condition?

19 A Yes, and it could have,
20 instead of telephone calls, telexes could have been used.

21 Q All right. Do you see
22 that getting written approval is a useful tool? Does
23 it give people more time to think about these things,
24 or is it no better than a phone call?

25 A Let me answer this way,
26 that you can't file a telephone call and it's always
27 useful to avoid misunderstanding to have something in
28 writing.

29 Q So, you'd like to have a
30 record of it whenever possible?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A That's right.

2 Q Here's a case where it --
3 do you feel a condition couldn't be met, or that they
4 should have used --

5 A Well, you know, you might
6 criticize Imperial Oil for not complying with the
7 permit in the sense that they should have obtained
8 written permission and as I say, that could have taken
9 the form of a telex.

10 Q Right, now you couldn't
11 turn them down, but presumably the Department of
12 Indian Affairs could turn them down under the conditions
13 of the permit?

14 A That's right.

15 MR. BAYLY:

16 Mr. Commissioner, I'd
17 like to file this letter and the permits as an exhibit.

18 (LETTER DATED AUGUST 13, 1974 FROM IMPERIAL OIL
19 LIMITED TO DIAND. RE: NETSERK ARTIFICIAL ISLAND
20 AND APPLICATION FOR QUARRY PERMIT, GARRY ISLAND
21 MARKED EXHIBIT #545)

22 MR. BAYLY:

23 Let's then go, Dr.
24 Stephen to examples in bird sanctuaries where you do have
25 the authority to grant or refuse permits. Now, as I
26 understand, to date, bird sanctuaries are by legislation
27 the best protected land areas in the Mackenzie Delta.
28 Is that correct?

29 A That's flattery, but I'm
30 not sure that it's correct.

Q Let's put it another way.
If you want to do an operation -- an industrial operation,

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 that affects land in a bird sanctuary, you require a
2 land use permit and you require a sanctuary permit.

3 A That's correct.

4 Q A land use permit given
5 out by the Department of Indian Affairs, the sanctuary
6 permit given out by CWS?

7 A That's correct.

8 Q CWS has an enforcement
9 officer permanently stationed in Inuvik?

10 A Yes.

11 Q One of his duties is to
12 police the bird sanctuaries to make sure that there
13 aren't infractions both of industrial and general--
14 infractions by the general public or industry?

15 A He's called a Migratory
16 Bird Enforcement Coordinator which means that he's
17 responsible while stationed in Inuvik, he's responsible
18 for the entire Northwest Territories; the District
19 of Mackenzie, Franklin and Keewatin, including the
20 islands in Hudson Bay. So that as a coordinator, he
21 has powers as a game officer but is expected to enlist
22 cooperation from R.C.M. police and the Northwest Territor-
23 ies game officers in enforcement of the Migratory Birds
24 Convention Act.

25 Q So, in a sense, he's the
26 chief --

27 A No.

28 Q -- of that region as far
29 as the operations you've described are concerned, what-
30 ever we may call him in title?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A I wouldn't call him the
2 chief. He's simply a Canadian Wildlife Service employee
3 there that has a circumscribed set of responsibilities.

4 Q Now, that position I gather
5 has been one that has been in Inuvik since September
6 of 1973. Is that correct?

7 A That's correct.

8 Q The CWS has had input into
9 the Land Use Advisory Committee, though, since 1971
10 according to evidence we've heard here.

11 A That's correct.

12 Q Would you agree that CWS
13 is taking a more active role in policing in sanctuaries
14 than they were prior to 1973 because of this officer
15 being present?

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Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A I think that's true.

2 Q Now let's have a look at some
3 of the operations which have occurred in the Kendall
4 Island Sanctuary during this period, and I'll refer to
5 this one by number for your reference, it's land use
6 permit No. N-72A119 and sanctuary permit W-572-26 and
7 I understand in this operation that the Canadian
8 Wildlife Service and the operator, who was Shell,
9 negotiated an agreement which Canadian Wildlife Service
10 considered to be a contract. This agreement stipulated
11 that the entire operation was to be helicopter support-
12 ed, and that following that, Indian Affairs gave
13 Shell written approval to build a road and to bring
14 in heavy equipment, and that the Canadian Wildlife
15 Service was not informed and the company was not informed
16 that prior approval from the Canadian Wildlife Service
17 was necessary. In this situation, the officer that
18 you had in INuvik, as I understand, seized the rig
19 and two helicopters under the Migratory Birds Conven-
20 tion Act and held them for three days. Are you aware
21 of that --

22 A Yes.

23 Q -- situation? Is that
24 a failure of communication or how would you describe it?

25 A That situation is being
26 rectified by the Department of Indian Affairs & Northern
27 Development agreeing to clearly set out on their permits,
28 their land use permits, that in a Migratory Bird Sanctua-
29 ry a sanctuary permit is also required. The onus is
30 on the operator to obtain that sanctuary permit, and it

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 was because of what might be called bureaucratic slipups
2 of that sort, that that agreement was reached with DIAND.

3 Q So now there should be
4 no excuse for operating in a bird sanctuary without
5 a sanctuary permit.

6 A That's right.

7 Q And in that particular
8 situation, because of what you've described as a
9 bureaucratic slipup, I understand that there were no
10 prosecutions.

11 A Well, shutting down an
12 operation for three days as I explained yesterday,
13 cost a heck of a lot more than a \$300 maximum fine.

14 Q I understand, I'm just
15 asking you the question. You didn't prosecute in that
16 situation.

17 A No.

18 Q O.K, but you did shut
19 down.

20 A Yes.

21 Q Now, let's turn to
22 another example. This is the Chevron Upluk M-38 site,
23 and I have the land use permit number but not the
24 sanctuary number, the land use number being N-73A491,
25 and I am informed that this was an operation which
26 was described by the Canadian Wildlife Service as
27 sloppy from the beginning. Apparently, and you can
28 tell me whether you're familiar with these facts or
29 whether you feel that I've misstated them:

30 "In late 1974 or early 1975 the operator

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 was in violation of a number of permit
2 stipulations,"

3 and I have these listed as follows:

4 "1. That fuel storage was unditched and was
5 not on the drill pad. A month after the
6 operator was reminded of the requirement,
7 the tank had been moved to the drill pad
8 but was still undyked."

9 That should be dyked rather than ditched.

10 The second violation was:

11 "That the sumps were filled above-ground
12 level and contained by a dyke but were
13 above the 4-foot free board required in
14 the permit.

15 3. That rig wash was found frozen both in
16 and off the drill pad, but had not been directed
17 into the sumps.

18 4. That the operator constructed an air-
19 strip without a C.W.S. permit, which was required.

20 5. That the site was left in a messy state,
21 debris scattered about, and the operator was
22 required to return to clean up in August of
23 1975.

24 6. That no inspection has been made by
25 Canadian Wildlife Service to ensure that
26 the cleanup has actually taken place to this
27 date."

28 Are you acquainted with that situation?

29 A I am not aware of whether
30 or not the inspection has been made to see whether or

Morrisop, Simmons, Stephen, Norton
Cross-Exam by Bayly

not the cleanup has been made.

Q I understand that, it's something that will have to wait till spring because you can't tell with the snow on the ground. But you're acquainted with the other facts?

A Yes.

Q And --

A Not, in other words, I don't write the permits and -- but if there's a serious problem arises, arising, it usually comes to my attention.

Q All right, and these came to your attention?

A I was not regional director at that time.

Q You are aware of this situation?

A Yes.

Q And would you agree with me that the items that I have described are violations of the permit?

A Sorry,,if it was spring of 1974, I wasn't regional director at that time.

Q All right. But since becoming regional director, you're acquainted with the history of this particular incident?

A As I say, I don't go over all the permit files personally.

Q I understand that. I'm just asking you if you're acquainted with this one.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

A I think the answer is
in a vague way.

Q All right. Now, you could
become acquainted with it if you checked the files, I
take it?

A That's right.

MR. BAYLY:

All right, I wonder, Mr.
Commissioner, if we could ask for Commission counsel's
co-operation to have this witness check to make sure
that the things that I have mentioned are in fact
correct, and provide us a letter either confirming or
suggesting that the facts are not correct?

MR. GOUDGE: We could do that,
sir.

MR. BAYLY: Q Would you be prepared
to do that, Dr. Stephens?

A Yes.

Q Now, let's assume that--
and that's something you could do fairly easily, I take
it, and we could have the benefit of it fairly
shortly?

A I don't know how long
it will take.

Q Before the end of the
Inquiry?

A I don't know how long
that would take.

Q Well, let's assume that
these facts are correct and can you tell me whether or
not any prosecution arose out of this situation?

A None that I am aware of.

Q And can you tell me if you
know why no prosecution arose out of this?

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A No, I can't.

2 Q And would you be consider-
3 ing prosecuting the company following the inspection
4 that is to occur or has already occurred?

5 A Yes, we would consider it.

6 Q And to go back to your
7 concerns about prosecutions, both in terms of the
8 monetary fines and in terms of not wanting to set a
9 precedent you don't want to live with.

10 A That's right.

11 Q All right.

12 MR. HOLLINGWORTH: Excuse me,
13 Mr. Bayly, just so it's clear to me. You called this
14 a Chevron well. Were Chevron the operator and were
15 they the party you're contemplating prosecution?

16 MR. BAYLY: They are, as far
17 as I know, Mr. Commissioner, the operator under the
18 permit whose number I have given, and Upluk M-38 is the
19 name of the site.

20 Q Now, I suggest to you,
21 Mr. Stephen, and you may choose to disagree with me,
22 that if you don't prosecute in some of these situations
23 you may also be setting a dangerous precedent.

24 A That's correct.

25 Q That industry may say,
26 "C.W.S. never prosecutes or seldom prosecutes."

27 A They could say that.

28 Q All right, and that this
29 is the -- as you've agreed -- the vehicle by which it
30 is the most convenient to bring these matters before

Mossop, Simmons, ~~Stephen~~, Norton
Cross-Exam by Bayly

1 the public?

2 A We went into that yesterday
3 and we don't make a habit of publicizing a prosecution.
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Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

Q Let's look at another one
in the sanctuary. In September of 1975, I'm informed
Sun Oil at a site within the Kendall Island Sanctuary
constructed an airstrip without a sanctuary permit and
an access road. Are you aware of that situation sir?

A I think they had a permit
for the airstrip but they extended it 300 feet out onto
the -- it was supposed to be all on the river ice and
they put it 300 feet onto the island.

Q No prosecution resulted
from that incident as I understand?

A That was considered to be
a human error not causing any damage to the habitat.

Q In January of 1976, I
understand Imperial Oil advanced the date of one of
their operations in the Kendall Island Sanctuary and
proceeded without a CWS permit. Are you aware of that
incident?

A Yes.

Q Apparently, Imperial Oil
voluntarily shut down after an inspection by CWS
enforcement officers.

A That's correct.

Q And no prosecution occurred?

A That's correct.

Q At what level are the
decisions regarding prosecution of industrial land
users made in the Canadian Wildlife Service?

A You have that in my letter
to Miss Allison, and our three levels of management in

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Edmonton and three levels in Ottawa that might be affected
2 and if we choose not to prosecute, it's incumbent upon
3 me, if I make the decision, to inform my superiors of the
4 possible political impacts -- political effects arising
5 from that.

6 Q All right. So, you're
7 concerned with the politics of prosecution as well as
8 the enforcement?

9 A I consider it my job
10 to put a halo and wings on my minister.

11 Q To put a halo and wings
12 on your minister. And I take it that --

13 THE COMMISSIONER: I take it
14 that is a job description that sums the thing up quite
15 adequately.

16 (LAUGHTER)

17 MR. BAYLY: Sometimes that may
18 occur at the expense of the environment?

19 A That's right. That's
20 why he has to be informed.

21 Q Now, that isn't the
22 case though with prosecution of people who are in
23 breach of hunting and harassment regulations, is that
24 correct?

25 A Not always.

26 Q So there is a difference.
27 You don't tell the Minister every time you want to charge
28 somebody with hunting in the sanctuary?

29 A That's right, usually.

30 Q Now, as I understand, there

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 have been very few prosecutions under the Migratory
2 Birds Regulations. Would that be your -- would you
3 agree with that?

4 A In the Northwest Territor-
5 ies and the Yukon?

6 Q Yes.

7 A I couldn't tell you off -
8 hand how many prosecutions have been made.

9 Q All right. Well, let me
10 quote a letter then to Mr. Carson Templeton from Mr.
11 C.S. Alexander, the legal advisor seconded to the
12 Department of the Environment from the Department of
13 Justice and the last paragraph of that letter on the
14 third page reads as follows:

15 "Section 35 of the Migratory Bird Regulations forbids
16 the deposits of substances harmful to migratory
17 birds in waters or areas frequented by such birds.
18 The program administrator of the Canadian Wildlife
19 Service informs me that there have been few, if
20 any charges laid under this section."

21 That letter is dated April 25,
22 1974.

23 A Subsection two of that
24 section says that:

25 "Provided that no other federal act or permit
26 applies"

27 and to give you an example of how that affects us, we
28 attempted to prosecute -- there was a pipeline break --
29 let me start again. There was a pipeline break near
30 Killam, Alberta which a quantity of oil was spilled into

Simmons, Mossop, Stephen, Norton
 Cross-Exam by Bayly

1 a wet land inhabited by migratory birds and some oiled
 2 birds were found. Investigation was made and prosecu-
 3 tion attempted and because the pipeline had been permitted
 4 under the -- by the National Energy Board, we were
 5 advised not to proceed.

6 Q Now, nobody else, I take
 7 it has any authority to prosecute under the sanctuary
 8 permits.

9 A Yes. R.C.M. police and
 10 Northwest Territories game officers.

11 Q Dr. Simmons, have you
 12 considered using your Northwest Territories game officers
 13 to prosecute for infractions of sanctuary permits?

14 WITNESS SIMMONS: I would
 15 consider this, but I'm not aware of any that we've
 16 had an opportunity to do this on our own.

17 Q Do you consider that
 18 something that is really a CWS matter, or is just that
 19 you haven't explored it?

20 A I think what we would do
 21 in cases where we become aware of a violation of a
 22 sanctuary permit or a violation of the migratory bird
 23 regulations, we would try to turn the case over to the
 24 Canadian Wildlife Service as soon as possible, rather
 25 than involving our own men. However, if we could not
 26 do this, I would -- our men would proceed under their
 27 own authority. That is, the authority delegated to us
 28 by the Canadian Wildlife Service.

29 Q All right. Then, do you
 30 have to put a halo and wings on anybody before doing that

Simmons, Mossop, Stephen, Norto
Cross-Exam by Bayly

or are you in a different position?

A I like to leave as much of the decision of investigation and prosecution up to the enforcement officers that are under me. We try to, through training, instill them with the judgment that's necessary for a proper investigation and turning it over to the attorney.

Q Is this one of the reasons why you said in your evidence yesterday that you'd be reluctant to turn over the jurisdiction that you have, to any agency that was in charge of surveillance and monitoring of the pipeline?

A Our motives for enforcing regulations under our game ordinance might be different than people to whom we might delegate that responsibility. I'd rather keep it under our control.

MR. BAYLY:

I'd like to file this letter to Dr. Templeton as an Exhibit please, Mr. Commissioner.

LETTER DATED APRIL 25, 1974 FROM C.S. ALEXANDER TO C.H. TEMPLETON RE: PROSECUTIONS AND CONVICTIONS UNDER THE FISHERIES ACT, WATER POLLUTION LEGISLATION AND CANADA STRIPPING ACT MARKED AS EXHIBIT #546)

MR. CARTER: Sir, I wasn't sure what that letter was about.

MR. BAYLY: I could read the --

MR. CARTER: We've got 550 exhibits and we really don't need these extra ones and it seems it's a letter to Mr. Templeton from somebody about the number of prosecutions, and the witness said

1 he don't know how many were. If it's intended to
2 introduce it to prove the number, I think he's got to
3 call the person who wrote the letter. I mean, just to put
4 a letter ⁱⁿ for an exhibit, isn't enough. What's the
5 intent behind it? What's it meant to prove?

6 MR. BAYLY: Well Mr. Commissioner,
7 I only put it in to be helpful. If Mr. Carter is
8 concerned and wants to object to the putting in of this
9 letter because it doesn't fit in with the rules of
10 evidence completely, then we'd have to shut out an
11 awful lot of evidence not only called by me, but called
12 by Mr. Carter and his client.

13 THE COMMISSIONER: Well, the
14 rules of evidence don't bind the Inquiry. We're bound
15 by considerations though, of fairness and of relevance.
16 If the letter is relevant, then it is one that I'm
17 willing to see marked as an exhibit and if anybody says
18 that they don't agree with what's in the letter, then
19 in fairness -- the rules of fairness would require me to
20 hear evidence to the contrary but this isn't a court
21 of law. It isn't a trial and we are not bound by the
22 rules of evidence. So I--

23 MR. BAYLY: I don't think the
24 witness has disagreed with this, Mr. Commissioner. He's
25 just said that --

26 THE COMMISSIONER: Pardon me?

27 MR. BAYLY: The witness hasn't
28 disagreed that this is the case. He's just --

29 THE COMMISSIONER: No, I don't
30 think that a letter written from someone who was writing

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 in a capacity in which we would expect him to tell the
2 truth should be considered as anything else but a
3 statement of the fact unless and until someone comes
4 along and says that's wrong.

5 So, I'll allow the letter to
6 be marked. It makes the record complete.

7 MR. HOLLINGWORTH: My
8 understanding of that sir, that that's considered
9 proof of the statements that's contained in it unless
10 it's proven otherwise?

11 THE COMMISSIONER: Yes in
12 the normal course of events, what's said in a letter
13 is proof of the truth of what is said in it. I'd say
14 that on the footing that I take it, this emanates from
15 someone writing in an official capacity.

16 MR. BAYLY: That's my under-
17 standing sir, yes.

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1 THE COMMISSIONER: That's not a
2 letter received from a member of the public saying "I
3 heard in the beer parlor that such-and-such occurred."

4 MR. BAYLY: Q Now, on the subject
5 that I have just addressed my last question to you, Dr.
6 Simmons, we heard about the requirements for surveillance
7 and monitoring of the pipeline and the related activities,
8 and several groups, beginning with the Environment
9 Protection Board, have stressed the need for a pipeline
10 authority. Now each of your agencies has enforcement
11 responsibilities which might be included in the authority
12 or might be exercised independently of it. Dr. Simmons,
13 you said you'd like to hang onto what you've got for
14 a number of reasons, and I gather from you, Mr. Mossop,
15 that you would agree that you want to keep the authority
16 that you've got and not -- you go a step farther than Dr.
17 Simmons, perhaps, you don't want to get involved in
18 pipeline policing, in your department.

19 WITNESS MOSSOP: I think that
20 we are willing to delegate our authority in the pipeline
21 corridor, if you like, which wouldn't involve relinquish-
22 ing any of our authority we currently have.

23 Q And is it because you don't
24 think you could handle it, or because you don't think
25 you'd get enough funding for it, or what are the reasons?

26 A The reasons are not clear
27 in my mind. Some of the reasons are, we're most concerned
28 about developing our agency to the point where we can
29 manage the rest of the land, outside of the pipeline
30 corridor both during and after pipeline construction.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 That's our prime concern.

2 Q Let's assume that you're
3 right about the evidence, your opinion evidence you
4 gave yesterday, that this corridor will include a
5 number of facilities and therefore that the construction
6 will go on for many years. Do you see the possibility
7 of your office developing into the role of monitoring
8 and surveillance of activities within this corridor,
9 or do you just not want to have anything to do with it
10 ever?

11 A I think I'd have to give
12 an opinion again on that. I favor the kind of approach
13 that Dr. Norton has outlined, a joint team has merit
14 for the pipeline corridor inspection process.

15 Q Now, I gather there's
16 planning going on at present for the pipeline authority,
17 if we can call it that, and are any of you involved
18 in that planning at present? Dr. Simmons?

WITNESS SIMMONS:

19 A One of my staff has
20 been seconded to a planning group which is now involved
21 with planning in the delta, the Mackenzie Delta Regional
22 Plan, I believe it's called, and I assume that this
23 planning group or this plan will then take southerly
24 segments of the Mackenzie Valley corridor at later
25 dates. I was involved with a group that was to advise the
26 Minister on the usefulness of a Mackenzie Valley Authority
27 or what we might -- whether we would recommend a Mac-
28 kenzie Valley Authority or not.

29 Q And is that the group
30 that's headed by Mr. Guy.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A Frankly I don't know
2 who the group is headed -- the total group is headed by.
3 We were one of many sub-groups in this total picture.

4 Q And have you made your
5 recommendations as yet?

6 A I believe that the report
7 has been submitted. The group or committee working
8 group report has been submitted, and I have not seen
9 the final document.

10 Q There is one, though, I
11 take it from what you say?

12 A I think so, yes.

13 MR. BAYLY: Mr. Commissioner,
14 I wonder if we could prevail upon Commission counsel
15 to use his best offices to obtain this, because it
16 seems to me, sir, that if the government is planning an
17 authority, we should know about it so that we don't
18 make recommendations without, or in a vacuum if they're
19 going to go ahead and do something else, or if they
20 can shed some light on some of the problems that we
21 have been facing.

22 THE COMMISSIONER: Well, I'm
23 sure Commission counsel will continue to discuss with
24 officials of the Department, the state of planning of
25 their own options, and I'm sure that Commission counsel
26 will continue to report to us whenever he has something
27 concrete to offer. I think that's as far as we can
28 go. It seems to me that many government departments
29 must be developing contingency plans for any number
30 of occurrences that may happen in the north, and the

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 | proposal to establish a Mackenzie Valley Authority to
2 | superintend construction of the pipeline if one is
3 | built, it seems to me is just one of those, but I'm
4 | sure Mr. Goudge will do his best to see what the state
5 | of the -- what stage the thing is at at the moment.

6 | MR. BAYLY: Mr. Commissioner,
7 | I think that your rulings make it clear that at least
8 | that report should be listed by Mr. Goudge. He may
9 | claim --

10 | THE COMMISSIONER: When it is
11 | a report, I gather.

12 | MR. BAYLY: I understand from
13 | Dr. Simmons that it is.

14 | MR. GOUDGE: Well, he seems
15 | a little unsure, sir. I think it's perhaps a little
16 | unfair to leave any implication that a report exists
17 | and is on nobody's list. I would be glad to discuss it
18 | with Dr. Simmons and then enquire of the Department,
19 | and if there is a document there that is in a form of a
20 | report that appears useful to the work of the Inquiry,
21 | will of course advise you.

22 | MR. BAYLY: Well, Mr. Commis-
23 | sioner, we've had a bit of difference of opinion with
24 | Commission counsel on when a report is a report before,
25 | and as those rules are not clear I'm concerned that
26 | it might be called something else.

27 | THE COMMISSIONER: Well, why don't
28 | we let Mr. Goudge look into it and report back to the
29 | Inquiry, ^{that is} report back publicly here, see what he's got to
30 | say. A report that was in dispute before has been

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 I understand
2 provided and marked as an exhibit. I'm thinking of
3 Doctor somebody's report.

4 MR. BAYLY: I'm thinking of
5 Dr. Geist's report.

6 WITNESS SIMMONS : Mr. Bayly,
7 the deadline has just recently passed for the submission
8 of the raw material from my office, so I doubt whether
9 the thing has actually been bound between hard covers yet.

10 MR. BAYLY: Q So it may not
11 yet be a report?

12 A It may not.

13 Q Now, Dr. Norton, I invite
14 your comments on a report that I have here called
15 "A Report on the Trans-Alaska Pipeline as it
16 relates to planning for a regulation of
17 construction of a Mackenzie Valley gas pipeline."
18 This is a report prepared by Mr. Barry Yates and in
19 that report there are some conclusions after a visit
20 to the Trans-Alaska Pipeline, and he says as follows
21 at page 6 of this report -- and I'd like to make a
22 copy of this an exhibit, Mr. Commissioner, after I've
23 finished using it in my cross-examination.

24 "The jurisdictional setup in Alaska is complex
25 in the extreme, as the pipeline project is
26 superimposed on a transitional period from
27 federal to state control of a portion of state
28 land and the Alaska Native Claims Settlement
29 Act. Strong state and federal organizations
30 have been set up to co-operatively administer
agreements with the owner companies. However,

MOSSOP, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 the government system tends to duplication of
2 effort and over-inspection. It works in spite
3 of itself because of the co-operative attitude
4 of government, industry and native people in
5 an atmosphere of support of the pipeline project.
6 This support stems from the financial benefits
7 that will accrue to oil companies -- to all
8 parties when oil begins to flow. "

9 So far would you say that he's on the right track in
10 assessing the operations of JFWAT and the other pipeline
11 authorities?

12 WITNESS NORTON: I would have
13 to examine the body of text of that to evaluate his
14 conclusions. However, there is admittedly redundancy,
15 and at least the appearance of over-inspection at times.
16 I suspect that sometimes the appearance really is mis-
17 leading and I would ask for a chance perhaps later to
18 comment more fully on that particular conclusion.

19 Q Well, I'll have this
20 made an exhibit, Dr. Norton, and perhaps you could look
21 at it and ^{you may} wish to comment on the report after having
22 a chance to read the whole thing. One of the other
23 points that Mr. Hunt makes at page 7 -- I'm sorry, that
24 Mr. Yates makes at page 7 of this report in regard to
25 the Mackenzie Valley Pipeline, he says:

26 "The desirability of a single central authority
27 to co-ordinate government regulatory responsi-
28 bilities during construction of a Mackenzie
29 Valley Pipeline is reinforced by studying the
30 Alaska situation."

1 I take it from your evidence yesterday that taking
2 that statement in isolation you wouldn't agree with
3 that , you prefer the team approach.

4 A Well, I wouldn't rule
5 out a single authority, but what I perceive as a necessary
6 stance by regulatory agencies is that they have within
7 themselves^{check and} balance opportunity between the local
8 interests and the national interests, whether the
9 local is territorially based or community based, or
10 whatever, and I think from the Canadian perspective
11 it's important to design that into whatever authority
12 or authorities are going to be put on line, so to speak.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 THE COMMISSIONER: I think
2 that you should examine that and when you return, you
3 might comment on it, if you will.

4 MR. BAYLY: Yes, some of the other
5 witnesses may wish to look at it as well and comment
6 sir, especially those that have been involved in
7 thinking about these problems.

8 THE COMMISSIONER: Well, it's
9 a comment on Alaska.

10 MR. BAYLY: Yes, Dr. Simmons,
11 I understand has been to Alaska to look at the pipeline
12 and the authorities. Is that correct Dr. Simmons?

13 WITNESS SIMMONS: Yes, it is.

14 Q In light of what I've
15 read out from that document, do you favor yourself the
16 single authority approach or the approach that is
17 recommended by Dr. Norton?

18 A I wonder if they're
19 exclusive. There are many advantages to a single
20 authority as long as did occur with the JFWAT team,
21 there is an opportunity for checks and balances on this
22 central authority. The fact that they are able to
23 wheel in the state and federal regulations if the
24 stipulations themselves are not adequate.

25 Q Now, are you in the
26 position to agree that within^{the} agency, if there is a
27 single agency, there should be these checks and balances
28 that have been described by Dr. Norton?

29 A I think it would be
30 essential and I wonder if it would better be called a

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 central coordinating agency rather than a central
2 authority. There would be ^a considerable difference
3 there.

4 Q I understand. But you'd
5 see a central coordinating body that could draw on what
6 already exists. The various structures that exist to
7 assist in the monitoring and surveillance role.

8 A Yes.

9 Q Now, the concern I have
10 with that Dr. Simmons and I invite you to comment on
11 it, is that your department, like Mr. Mossop's and perhaps
12 like the Canadian Wildlife Service as well, is unlikely
13 to grow prior to development. It's more likely to
14 react to what is happening when it begins to happen.
15 Would you agree with that?

16 A From as far down on the
17 totem pole as I am, I would -- this seems to be the
18 way things work. There may be mechanisms for a quicker
19 response than we've seen in the past but I'm not aware
20 of them.

21 Q We've been told, you see,
22 by Dr. Templeton that his opinion is, that any authority
23 that is going to be planned, whether it's single or
24 multiple to police the pipeline should have been started
25 on some time ago and the people that are going to be
26 involved in it should be training right now for their
27 roles. Would you agree with that as perhaps the way
28 it should be done?

29 A My person opinion is that
30 we are indeed lagging.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

Q All right. If you started right now and the pipeline were to be built on schedule as Arctic Gas or Foothills project, could you be ready in time?

A I don't think so. I'm speaking for our agency.

Q Yes, and I'd like a comment please, from Mr. Mossop and Dr. Stephen on that as well.

WITNESS MOSSOP: I really can't comment beyond what I've already entered on that subject.

Q All right. Do you have a personal opinion as to whether you could^{get} ready in time if you started right now? That assumes funding and personnel and --

A Do we know how long we have before construction starts, for instance?

Q If I'm not mistaken, the beginning of the operation would start with surveying and clearing, etc. in early 1977. Am I correct there, Mr. Carter?

MR. CARTER: Well, the North Slope and Yukon that could be Mr. Mossop's area, would be considerably later^{than} that. That would be the Prudhoe Bay leg.

MR. BAYLY: All right and that would more likely be 1978 or 9.

MR. CARTER: There would be no clearing on the North Slope. Construction would be in 1980 as I recall, so they would be surveying a year before that? Surveying probably starting in 1979.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Q So your area would be --
2 the work would begin two and a half years from now.
3 WITNESS MOSSOP:

4 A I suspect that this will
5 depend on how big the gaps are in our knowledge with
6 regard to management. So that phase is the major
7 stumbling block and the other phases of our proposed
8 development in the north conceivably could be on the
9 ground in two years, yes.

10 Q So you haven't really
11 even assessed what you would need or what you would
12 need to do to prepare yourselves?

13 A No, in terms of management
14 research, we only have a general idea about what we
15 would have to carry out.

16 Q Dr. Stephen?

17 WITNESS STEPHEN: As I recall
18 your original question, would we be ready for the
19 monitoring and surveillance program?

20 Q Yes, by the start up of
21 construction --

22 A One should distinguish
23 there between monitoring and surveillance. I think
24 they're altogether different jobs; surveillance being
25 what might be regarded as on the spot capability to
26 enforce any stipulations and advise on any changes,
27 which would require, I think, some additional manpower
28 and some additional training. I think that that could
29 be done at that -- in that time frame.

30 Q That is, prior to 1979
or prior to the start up farther up the valley?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A 1977. If it were certain
2 that the pipeline -- a pipeline were to be built, I am
3 sure that that would be -- I feel reasonably certain
4 that when Cabinet approval is obtained, that there will
5 be identified these manpower requirements and they would
6 be deployed.

7 Q Well, who's going to
8 identify them, Dr. Stephen, are you --

9 A I beg your pardon?

10 Q Who's going to identify
11 them? Are you or your service, or would you anticipate
12 that the Cabinet would seek counsel elsewhere to --

13 A Cabinet will seek counsel
14 elsewhere.

15 Q So they won't ask you
16 how many people you need to --

17 A Elsewhere than in Cabinet.

18 Q You will want to supply
19 them with a number and a budget.

20 A That's right.

21 Q But you haven't started
22 to prepare that yet.

23 A We have, yes. There's a
24 workshop going on today, ^{and} tomorrow, in Winnipeg addressing
25 part of that question.

26 Q So you've begun that
27 process that Dr. Templeton was concerned with?

28 A The other part of the
29 question of monitoring, that might take place either
30 during construction process or it might take place five

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 years after. They're not necessarily one and the same
2 thing at all. One would be a process of science, the
3 other would be a process of adherence to regulations
4 and advice -- expert advice on the spot.

5 Q Would you agree that both
6 are important?

7 A Yes.

8 Q Both are necessary?

9 A Monitoring isn't absolutely
10 necessary, but it's very useful.

11 Q Right. There's no
12 monitoring by CWS on the Dempster highway as I understand?

13 A Well, we're monitoring
14 the Peace - Athabasca Delta for example because we've--
15 some alterations of the environment have taken place
16 there and we consider it important to see what happens.

17 Q There's no monitoring of
18 the Dempster highway, as I understand?

19 A Not our jurisdiction.

20 Q There's no CWS monitoring
21 of the Dempster highway?

22 A Not to my knowledge, but
23 we're doing some investigations of the Liard highway
24 on a cost recovery basis from DIAND.

25 Q Would you consider one
26 to be more important than the other? Surveillance to
27 be more important than monitoring or vice versa?

28 A I think I already answered
29 that question; that monitoring isn't absolutely necessary
30 but quite useful for future planning.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 Q If the pipeline is going
2 to establish a corridor for future facilities, would you
3 consider it to be essential?

4 A Again, I think that the
5 answer is, useful but not an absolute requirement.

6 Q Dr. Norton, you've got
7 some experience with this, how do you feel about that?

8 WITNESS NORTON: Well, I think
9 Dr. Stephen's distinction between surveillance and
10 monitoring first off; we do both. JFWAT does both.
11 The monitoring in the sense that Dr. Stephen is using the
12 word, we call technical evaluation in part and that has
13 an interesting history because Alyeska did not, by
14 our reimbursability agreement want us, as fish and game
15 or fish and wildlife biologists, to be doing research,
16 so we had to invent a new phrase to get away with it.

17 This research consists of such
18 things as determining whether our best guess in the
19 design review and design influencing stage, for example,
20 would permit big game crossing actually to take place.
21 We don't know. We never did any experimentation of
22 real predictive power before the pipeline construction
23 began.

24 So, in a sense, we shoot blind
25 and then we stand as judge and jury on our own best
26 recommendations and I would say, I would concur with
27 Dr. Stephen that in the short range, surveillance is
28 absolutely necessary. In the longer range view, the
29 monitoring or technical evaluation, if you will becomes
30 increasingly important. That's the only way we're going
to do the next job better for example.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 At the risk of witness leading
2 counsel, could I observe on the lead time for training
3 and planning and so forth; one of the aspects that perhaps
4 the next pipeline should think about, as far as fish
5 and wildlife surveillance and monitoring, the whole
6 process, is the training or exposure of the biologists
7 to the construction process -- the high-speed construction
8 industry, as part of their training. I would have gone
9 out in the field unfamiliar absolutely with the types
10 of equipment, the types of operations, and of course
11 Alyeska complained continuously that the dumb biologists
12 didn't know anything about the necessities for this or
13 that aspect of the construction process. So in thinking
14 about your lead time, for training, part of the train-
15 ing probably should have to do with exposure to the
16 kinds of equipment and processes of industry.

17 Q And in terms of putting
18 together a corridor of facilities, would you say that
19 that increases again the importance of the second part
20 of the job, the monitoring, if you can call it that?

21 A Yes.

22 Q Now, this may be something
23 which you, Dr. Simmons and Mr. Mossop, would care to
24 comment on as well.

25 WITNESS SIMMONS: I wanted to
26 all right, but not
comment directly on that. I didn't read your question
27 the same as Dr. Stephen did. I read you as asking
28 whether we would be ready to -- in effect -- to cope
29 with the pipeline project as a wildlife management
30 agency, and I based my answer on that assumption

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 rather than isolating monitoring and surveillance as
2 a whole, and what brought that to mind more vividly, is
3 what Dr. Norton just said about the necessity of
4 properly training the biologist, and I would add to
5 that our involvement with the necessary training of
6 construction people themselves, which was in Alaska,
7 I believe, undertaken by Alyeska.

8 I just do not have the feeling
9 that we are going to have enough time to do a proper
10 job of this, and I underline the word "proper". Certainly
11 we can respond, but whether it's an adequate response
12 or not will depend on how much time we are given, not
13 only how much money and manpower.

14 Q In terms of management, I'm
15 assuming you may not even be able to predict declines or
16 even to be able to tell whether they are occurring as
17 they are happening in populations?

18 A We have a lot to learn
19 in spite of the excellent baseline data that was produced
20 by consulting companies, by the Canadian Wildlife Service
21 and our own organization. That's part of the whole
22 business of being prepared.

23 Q And you won't have that
24 part ready, I take it, in time?

25 A I don't see how we can,
26 no. There are too many questions left unanswered, that
27 are essential.

28 Q All right. Mr. Mossop?

29 WITNESS MOSSOP: No, I have
30 nothing more to add.

Mossop, Simmons, Stephen, Norton
CROSS-Exam by Bayly

Q Do you have any opinion on who should train the construction personnel in the environmental concerns that you have in game management?

A I have no opinion that would I think, be enlightening.

Q All right now, Dr. Simmons, you said that Alyeska took this job on and you went over and had a look. What was your opinion?

WITNESS SIMMONS: We had the opportunity to sit in on one class at the Alyeska headquarters in Anchorage, and I was a bit discouraged by the way the class was conducted and the reception by the construction workers. Also there was little follow-up on the classes, which I feel is necessary' especially with a high turnover of people. But in a nutshell, I really don't feel that having the company do the education of their own people is the right route to go. I feel that the people who are responsible for the long-term management of the resources within the corridor and outside of the corridor should have a very strong hand in the educational process, and seeing to it that the construction workers understand why -- the whys and wherefores of the rules and regulations that they are subjected to do.

Q Is that your opinion as well, Dr. Norton, as someone who's seen this system operate?

WITNESS NORTON: If the training, so to speak, of contractor personnel consists of an environmental briefing, without which the briefee

10:00 AM, 10/10/10
Cross-Exam by Bayly

1 can't get a little card that says he is a briefee and
2 without which he can't go out to a camp, the process
3 is not very enlightening. I've sat through several
4 editions of those. The Alaskan hire people might sit
5 there and snicker at the misidentifications of various
6 wildlife species, for example; the non-Alaskan people
7 might doze through it. It's not a very whippy operation.
8 I don't know what could be done better. It's a problem
9 because for example right now Alyeska is hiring about
10 1,000 people a week, and that's an enormous job of
11 briefing, training, whatever you want. Some high
12 proportion of those are coming for the first time to
13 Alaska, first time to the corridor, and certainly to
14 the project. We, in a sense may have abdicated that
15 role of briefing or training Alyeska personnel because
16 we had it originally planned into the JFWAT operation.
17 It obviously got away from us with such huge numbers
18 of workers to brief, and having Alyeska do it was the
19 only apparent way out at the time. It's a problem that
20 needs a lot more examination.

21 Q Dr. Simmons, did you
22 have something to add?

23 WITNESS SIMMONS: One thing
24 I said that we should maintain a role in this
25 educational process, came from a suggestion by a
26 JFWAT employee while we were in Alaska, and that is, he felt
27 that he was most effective in the followup process
28 after these fellows are subjected to the dreadfully
29 dull procedure in Anchorage that the JFWAT people
30 themselves, and perhaps Game and Fish Department

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 people, visit camps and give whole bull sessions and
2 so forth. They found that this was most effective, and
3 this is a role, I think, that our agency could play in
4 an upcoming pipeline construction routine.

5 Q You went over to Alaska,
6 I take it, with the Commission staff; is that correct,
7 Dr. Simmons?

8 A Yes, it is.

9 Q Did you produce a report
10 on your visit?

11 A It is being produced,
12 yes.

13 MR. BAYLY: Perhaps when that's
14 available, Mr. Commissioner, we can find out if it's
15 going to be called a report.

16 THE COMMISSIONER: You went
17 with this Commission, with the Inquiry staff.

18 A With the Inquiry Appraisal
19 Team, yes.

20 THE COMMISSIONER: Well, let's
21 stop for coffee.

22 (PROCEEDINGS ADJOURNED AT 11:10 A.M.)
23
24
25
26
27
28
29
30

Monsieur, Simmons, Stephen, Norton
Cross-Exam by Bayly

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

MR. BAYLY: Dr. Norton, I provided you with that exhibit which was the report of Mr. Yates on his trip to Alaska and his impressions of the pipeline authorities there. Would you, now that you've had a chance to look at it, comment on that report and the items that I mentioned prior to coffee?

WITNESS NORTON: Yes, I think it's a remarkably accurate picture based on what I assume to have been a short exposure to the Alaskan situation. I would take issue with some points in here and bear in mind my own thinking about how we should have done it ^{in Alaska} is still evolving. We did make a number of mistakes collectively, and my role, I guess, is to try to examine those in as fair a light as possible.

The comment that there is redundancy and duplication of administration, of stipulations and regulations is fair, but let's put this in a certain kind of context because this sounds to me like a sob story straight from Alyeska, and I had a chance one time to sit down in a relaxed atmosphere and to talk to Frank Moolin's assistant in Fairbanks and asked him what he had done previously, what his last project was for industry; and he quite willingly told me about the process which I believe was to build a petroleum line that went between Antwerp and somewhere in Holland, and I said, "Oh, that's interesting. What was the regulatory process like?"

He said, "Oh, it was horrible. You not only had two nations involved, you had provinces,

1 you had villages or bergs, you had many sub-districts,
2 you had different dialects of Dutch and Flemish language
3 to contend with, you had slightly varying very old
4 jurisdictional responsibilities that overlapped, contra-
5 dicted and so forth. The permitting process which would
6 be analogous to the notice to proceed process took two
7 years before, I assume, a spade turned any gravel there.
8 But once it was done, once that two-year hassel was
9 over, then they proceeded very smoothly, as I understand
10 it."

11 Well, our approach of course
12 in Alaska had to be a little bit different because we
13 didn't have as much background knowledge, not as much of
14 a regulatory system behind us, or a tradition within
15 the state or within boroughs, or other government
16 levels. So I really couldn't feel too sorry for Alyeska's
17 problems with the notice to proceed process, given the
18 fact that pipeline industry is used to this in other
19 parts of the world, and it's remarkably simple really
20 when you compare the Alaskan situation to more densely
21 populated parts of the earth.

22 Well, on page 7 Mr. Yates
23 makes the point -- he makes two points back to back.
24 No. 1, the government must speak with one voice to the
25 pipeline construction company. I would agree with that.
26 I would also amplify it and say that industry needs to
27 speak with one voice to government agencies or single
28 authority, and point "C", the scheduling of construction
29 activities will require fast reaction by the regulatory
30 authorities with a minimum of red tape. I'd word that

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 completely differently. The provision of adequate
2 decision-making, design-influencing information by
3 industry to government must be prompt and with enough
4 lead time that a thorough review can take place. So
5 I do disagree with the stance, it sounds like a facili-
6 tatory stance only, in point "C" on page 7.

7 I would just offer that the
8 matter of a single authority versus dual or triple
9 is a matter of drawing the boxes in your spaghetti
10 diagram in the most efficient way at this point in the
11 planning stage. I don't have the answers but I would
12 argue again for the diversity of input and a point I
13 made yesterday that you need the local influence and
14 input because there is a sense of place to people who
15 are residents near or along a pipeline corridor, which
16 workers, which industry do not necessarily have.

17 THE COMMISSIONER: Dr. Norton,
18 you said that in Alaska now they're hiring about 1,000
19 workers a week. You said that it's really impossible
20 for them to be briefed on environmental considerations.
21 Did they shut down in December? Did pipeline construction
22 come to an end, and if so, for what period of time?
23 December and January?

24 A I'm not sure exactly what
25 the shutdown extent was. It was certainly December and
26 January, I think those two months were pretty much
27 construction-free. The experience of Alyeska in the
28 previous winter was that winter construction just was
29 too hard on machinery, too hard on men, and it was not
30 productive. I refer you to Mr. Moolin's speech which

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 most of the Inquiry has a copy of. He explains this in
2 that speech in a very short way.

3 THE COMMISSIONER: Yes, yes, I'll
4 look at that. I think you introduced that yesterday.

5 MR. BAYLY: O.K., is that the
6 extent of your comments on the report, Dr. Norton, or
7 did you have further?

8 A My voluntary ones, if
9 you'd like to elicit something more.

10 Q No, I just wanted your
11 general impressions after reading it. I'm moving to
12 another topic, Dr. Simmons, I notice in the back of
13 your evidence under the reports which you are responsible
14 either as author or co-author there is,

15 "Oil Exploration and the Bankslander, a
16 Lesson in National Priorities".

17 You and Dr. Barry were responsible for the production
18 of that report in 1973, is that correct?

19 WITNESS SIMMONS: That's correct

20 Q And as I understand, you
21 were concerned in your report with the effects of an
22 oil blowout even in 1973 as a possible problem that
23 might be associated with oil and gas exploration. I'll
24 read you the paragraph from this report on page 30:

25 "The activity which presents the greatest
26 potential danger to seals and polar bears is
27 offshore drilling. If an oil strike blew out
28 it could cause great damage to the marine
29 ecosystem, possibly wiping out the food
30 species of the seals and as a result affecting

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 the bears as well. Should such a blowout occur
2 under sea ice it could be extremely difficult
3 to cap."

4 A I must credit Dr. Barry
5 with that part.

6 Q And this is a statement
7 which appears to have been recurring in other government
8 studies of this area, notably Dr. Milne's, which I
9 understand you're acquainted with.

10 A No, I'm not familiar
11 with that.

12 Q Now, I understand that
13 you were -- that you presented this report in 1973 to
14 the government, is that correct?

15 A I guess so.

16 Q Do you know whether that
17 was prior to or after approval in principle was given
18 to Dome Petroleum to drill their two exploratory wells
19 in the Beaufort Sea?

20 A I'm not -- I can't recall
21 the details or the sequence of events there. Perhaps
22 they are reviewed in that report. I can't even remember
23 that, but my impression was that the timetable had
24 been set for exploration work on Banks Island, and it
25 was my impression that we were to fit that time schedule
26 with our work.

27 Q You don't know whether
28 that is true of offshore work as well?

29 A No, I don't know.

30 Q Would you be able to find

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 out, the sequence and perhaps supply us with that
2 information?

3 A I could, but I would do
4 so by going to other agencies to get that information.
5 I would have to go to Indian Affairs and to the Canadian
6 Wildlife Service.

7 Q If you could do that we'd
8 be grateful. Now, in this report I understand you
9 were specifically asked for your opinions on the possible
10 effects on the society in Sachs Harbour. Do you recall
11 that?

12 A This was one of our
13 terms of reference, yes.

14 Q And again at page 30 of
15 this report, you fulfilled your obligation in the report
16 to discuss that in the following terms:

17 "Changes to any society are often complex
18 and sometimes too subtle to discern. However,
19 it is obvious that the Bankslanders have been
20 exposed to a variety of new situations over
21 the past four years which are changing their
22 lifestyle and philosophy. Some of the most
23 important innovations have been the establish-
24 ment of a school, which they requested, and
25 government rental housing. The provision of
26 electricity to homes and the institution of
27 such government services as water and fuel
28 hauling. Usher, 1971, described the response
29 of the Bankslanders to these developments, but
30 most relevance has been the increased

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 attractiveness of settlement life and a decreased
2 number of man-days spent in the hinterland."

3 See Usher, 1970, and a page reference.

4 "At the same time there has been an increased
5 frequency of contact between the Bankslanders
6 and government officials."

7 You recall that?

8 (REPORT ON TRANS-ALASKA PIPELINE RE PLANNING
9 FOR REGULATION OF CONSTRUCTION OF A M.V.P.L.
10 DATED MAY 30, 1975 MARKED EXHIBIT 547)

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A Yes.

2 Q You go on to say, and

3 I invite you to comment as to whether your opinion
4 is still as it was in this report; you say:

5 "Industry, Government and the Bankslanders"
6 as a heading:

7 "So far, the change in the lifestyle of the Banks-
8 landers has not been accelerated drastically by the
9 advent of oil and gas exploration. The potential
10 for accelerated change exists, however if exploit-
11 able quantities of petroleum are discovered and if
12 the job market expands as a consequence.

13 The significance of lifestyle change has not
14 been lost upon the Bankslanders, whereas most parents
15 would like their children to carry on their
16 traditional ways, there are children who have been
17 exposed to the relative ease of life in Inuvik and
18 other population centers are not enchanted by the
19 harsh life of the trapper."

20 Does that seem to be something that's been borne out?

21 A I have no reason to change
22 that view or restate it.

23 Q You state that you also
24 encountered frustration and resentment among the adult
25 Bankslanders to the singleness of purpose and the
26 corporate strength the petroleum industry and the apparent
27 lack of government assistance to the Bankslanders. Do
28 you recall saying that?

29 A Yes.

30 Q Is that a situation which,

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

in your opinion, has remedied itself?

A I haven't been back to Sachs Harbour for quite some time, so I'm really not current on the situation now. But, I have no reason to -- I've heard of nothing that would change my opinion

Q You go on to state that, a deterioration in the Bankslanders' confidence in the government has been the result of increased contacts with government officials, and this was something that I gather you observed occurring throughout this incident. Is that correct?

A Yes.

Q You go on to state that: "Early in the course of such contacts, it became apparent to the Bankslanders that the assurances given them by the Minister of Indian and Northern Affairs and his employees could not always be accepted at face value."

This again was a phenomenon that you observed?

A That's correct.

Q I realize this report was written about Banksland in particular and about the community of Sachs Harbour but is the pattern something that you have observed elsewhere in the western Arctic?

A Generally, yes. I think there are examples of the same general exchange or attitude that can be seen elsewhere. I couldn't come up with specific examples at this time though.

Q You state further in the

Monrovia, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 report "examples of how the government caused the dis-
2 illusionment of the Bankslanders can be documented from
3 the government's own files." Did you do that yourself
4 when you were preparing the report?

5 A Yes, I think we did. I
6 recall a search for documentation in our own files.

7 MR. BAYLY:

8 Mr. Commissioner, I'd
9 like to enter a copy of this as an exhibit and it may be
10 a report that people want to have available when Dr.
11 Usher gives his evidence.

12 REPORT: OIL EXPLORATION ON THE BANKSLANDERS. N.W.
13 SIMMONS, T.W. BARRY AND A COVERING LETTER RE:
14 FROM J. BUCHANAN TO S. RADDI DATED APRIL 23, 1975
15 MARKED AS EXHIBIT #548

16 MR. BAYLY:

17 We have a numbered copy
18 of this that I have photocopied sir and lest anyone
19 think we got it through our extensive spy system, it
20 was sent to us with a covering letter which I will
21 also make an exhibit to Mr. Sam Raddi from the Honourable
22 Judd Buchanan. Oh, I see, we have to photocopy this
23 before we can give you that letter that accompanies the
24 report.

25 To your knowledge, Dr. Simmons,
26 have any of the recommendations you made in that report
27 been acted upon?

28 A I think you'd have to
29 review them for me. I haven't read that report for
30 some years.

Q The recommendations are
found at page 34.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 "It is recommended that changes be made in the
2 organization and modus operandi of Northern
3 Economic Development Branch to ensure that the
4 concerns of northern communities are given more
5 weight than they are at present in comparison to
6 the concerns of the industrial corporations whose
7 plans are in conflict with the expectations of local
8 people.

9 It is recommended also that technical advisors
10 either private or governmental be made available
11 to communities to help them in preparing and in
12 stating their case that land use managers mediating
13 such conflicts."

14 A Are you going to read them
15 all? Because maybe we should take them one by one.

16 Q All right, let's take
17 them one at a time. That's two that I read to you
18 though.

19 A O.K. the first one has
20 to do with a change in organization and it would be
21 presumptuous to think that we had any influence in any
22 changes in the Department of Indian and Northern Affairs
23 However, in all fairness, I should say that the communica-
24 tion between people of communities and the Department
25 has improved considerably. They've increased their
26 staff in some areas and especially at the field level,
27 the communication has improved considerably since the
28 time that Tom Barry and I were working on Banks Island.

29 Q Right. "It is further
30 recommended that vigorous efforts be made to obtain the

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 technical information on impacts on wildlife and habitat
2 for example, needed so badly by the land use managers."

3 A Speaking for my own
4 service, I don't think that we are even yet gearing up
5 as fast as we should to provide the information that
6 we were calling for in that report, but I can't speak
7 for Canadian Wildlife Service or DINA.

8 Q All right.

9 "Our first recommendation we consider the most
10 important. The present dual role of guardian of
11 the welfare of the Eskimo land and its resources
12 on one hand and chief proponent of rapid develop-
13 ment of non-renewable resources on the other can
14 hardly be evenly and fairly played."

15 A My personal opinion is
16 still quite strong in that area, yes.

17 Q For the basic recommendation
18 I'll give you the copy of the report before I give it
19 to Miss Hutchinson in case there's anything else you
20 wanted to mention about the recommendations or anything
21 else.

22 I understand that
23 with regard to doing additional research and the
24 question of certain attitudes, there are still steps
25 you'd like to see taken to fulfill the recommendations
26 that you had made anyway?

27 A Yes, generally and
28 specifically to the island.

29 Q Yes. Dr. Simmons, in
30 your summary of evidence on page nine, you've stated that

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 "the demands placed on the Fish and Wildlife Service
2 may be balanced by decline and interest in subsistence
3 hunting and fishing,"and could you review for us the
4 assumptions or statistics that this forecast or possible
5 forecast is based on?

6 A If we don't stick to the
7 letter of your question, I think I can help you in that.
8 We do have statistics to back up the statement that there
9 has been a decline in trapping. This is based on our
10 fur records. I must admit that the statement about a
11 decline in hunting is misleading, if not outright
12 wrong. I think really what has occurred is a change
13 in the type of hunting rather than a decline in hunting
14 per se. The decline is in the old style subsistence
15 hunting, I believe.

16 This is being supplanted by a
17 different kind of hunting like commercial hunting and
18 recreational hunting.

19 Q Right. The man with
20 the skidoo can get all the meat he needs on the weekend,
21 unlike in the old days when he might have to go out
22 all week with his dogteam.

23 A It depends on how old
24 the old days are, yes. You're right.

25 Q That just being an example
26 of --

27 A Yes. Also, if a fellow
28 was fully employed he may rely upon his brother or
29 neighbor to go out and get meat or he may purchase meat.
30 This is the commercial aspect of it which is a changing

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 picture.

2 Q Right. Now, it may be
3 though that the demands on the services of your office
4 may not decline because of this. It may create different
5 kinds of work and different kinds of problems, but it
6 may not diminish them?

7 A I think you're right and
8 therein lies my major error. As far as hunting goes,
9 you're correct. Trapping, I don't know. I do believe
10 that our services may be required less and less in that
11 area.

12 Q We've seen a couple of
13 examples in the Mackenzie Valley and in the -- along
14 the coast of outpost camps being started up. That's a
15 project in which your office is involved. These may
16 be additional and different services from ones that
17 you provided in the recent past.

18 A Different, maybe;
19 additional, I don't think so. I think that our outpost
20 camp program will absorb some of our other programs.

21 Q Would you feel that your
22 service will have to provide in the future, more
23 sophisticated estimates of the harvestable numbers in the
24 various areas in order to ensure the maintenance of
25 populations and the maximum benefits to subsistence
26 and other hunters?

27 A Yes, our estimates on many
28 species are crude.

29 Q Does the increase in
30 personnel that you've predicted as being required by

Mossop, ~~Simmons~~, Stephen, Norton
 Cross-Exam by Bayly

1 your service if the pipeline is built include people
 2 to do that kind of work as well?

3 A That's correct. Yes, it does.

4 Q We've talked a bit about
 5 the increasing number of man - bear conflicts resulting
 6 in more trips to the camps, I gather, being made by
 7 your personnel?

8 A That's right.

9 Q Are these expenses on
 10 any of the trips borne by the companies, or are they
 11 borne by the government?

12 A It varies. We have re-
 13 ceived offers from companies to pay for the expenses
 14 of an individual staying in their camp to deal with
 15 bear problems. We have taken advantage of generous
 16 offers of transportation to camp sites, etc., by the
 17 companies involved.

18 Q Do you feel that, ideally
 19 the cost should be borne ^{by} government or by industry
 20 in any different way than they are being borne now?

21 A That's -- maybe I'm
 22 reading more into it than you'd like me to read but --

23 Q Then just answer the part
 24 of it that you want. You're giving the evidence, not
 25 me.

26 A Right now, we can't bear
 27 the expense of repeated trips to rigs and so on to
 28 deal with bear problems. We can't even -- on occasion
 29 we can't even free the men to do this. So naturally,
 30 if the service is expected and it should be, then

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 we would like to see the company foot the cost and
2 in many cases, they have willingly done so.

3 Q Now, we had Mr. Jakimchuk
4 here a couple of weeks ago discussing some of these
5 man - bear conflicts and he suggested that all personnel
6 in the camps should be briefed about possible bear
7 encounters and what to do. That would fit in, I take
8 it, with the education program you described before
9 coffee?

10 A That's correct.

11 Q He further suggested that
12 one person should be available in each camp in areas
13 where there are likely to be bears who is capable of
14 dealing with them, short of tranquilizing them but who
15 would be able to administer a plan to avoid the conflicts,
16 either by getting everybody indoors or using scaring
17 devices or whatever. Would you agree with that?
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Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A It would be nice if that
2 fellow were indeed capable of doing this. I am not an
3 expert in this area so I really don't know what would
4 be involved.

5 Q It might be a biologist
6 or perhaps a technician, someone who had some special
7 training perhaps, from your office? Do you consider
8 that as a sensible suggestion?

9 A Yes, it would be a luxury,
10 I think, if we were to provide this.

11 Q You'd envisage the possi-
12 bility, though, I take it, that the company might
13 provide for the funding for that kind of a person?

14 A There is some precedent
15 for this, I believe. We've had companies offer to put
16 up one of our men for a lengthy period of time during
17 a period in which they were having bear problems.

18 Q Do you think this might
19 be considered as a condition upon which the company
20 was allowed to go ahead with projects in areas that
21 are likely to see bear-man conflicts?

22 A I may go off the track
23 here a little bit, but my attitude, which I hope is
24 enshrined as policy, is that our primary -- "our" mean-
25 ing citizens of Canada" -- our primary responsibility
26 is to try and avoid this confrontation between an
27 animal and man. In some cases this may mean the location
28 of a camp in a different area from where it's located
29 now. But if for some reason the camp is located in
30 a trouble spot, as far as bears are concerned, and

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 the troubles are frequent, then perhaps it would require
2 the considerable attention from a person skilled in
3 dealing with bear problems.

4 Q I understand there's an
5 operation like that in the Beaufort Sea right now, the
6 Norcore Engineering operation at the shear zone, are you
7 acquainted with that one?

8 A I wouldn't say I'm
9 familiar with it. I am aware that -- I think, and
10 please correct me if I'm wrong -- these people are on
11 contract to the Department of the Environment to do
12 oil spill studies at a shear zone, and they have had
13 their problems at their camps

14 Q And that may be an area,
15 I take it, that it's impossible to avoid if you want
16 to do that kind of work?

17 A I don't know if it's
18 impossible to avoid or not, but they are certainly
19 having their problems with bears.

20 Q I understand they've seen
21 a large number of bears and a few have been shot at that
22 camp this winter.

23 A This is what I hear.

24 Q Now, we were told by
25 Dr. Stirling that they would -- we would likely see
26 higher bear concentrations at the shear zone because
27 of the decline in the population of seals in this
28 part of the Beaufort Sea, and we, I assume, knew that
29 before any permit was given to carry out this operation.
30 Would that be correct?

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 A I would hope that our
2 people knew about it before permits were issued. I'm
3 not -- I really don't know what the sequence of events
4 was.

5 Q To your knowledge there
6 were no special recommendations of procedures to this
7 contractor because of the area that they were going
8 to be working in. Is that correct?

9 A I'm just not aware of
10 those details.

11 Q All right. Would it be
12 possible for you to get those details for the Inquiry?

13 A Now you're talking about
14 the sequence of events as far as the provision of
15 information to us by the Canadian Wildlife Service and
16 when the permit was issued, etc.?

17 Q Yes.

18 A Yes. Now on one thing
19 I can say -- and this involves my agency directly --
20 and that is that in the issuance of a scientific
21 licence, and I don't believe we issued such a licence.

22 Q All right, and would
23 that be a requirement?

24 A Yes, yes, to my knowledge
25 this is a requirement.

26 Q So they may be out there
27 without a required licence.

28 A No, I don't think they
29 are any more.

Mossop, ~~Simmons~~, Stephen, Norton
Cross-Exam by Bayly

1 Q But at the time that
2 they were?

3 A This is -- yes, I think
4 this is true.

5 Q Have you ever run into
6 this kind of situation where a scientific permit has
7 been issued and you've revoked it because of some of
8 the problems, or asked that the operation be stopped?

9 A I've only been six months
10 here, so no, I haven't had --

11 Q And you don't know of
12 any instances?

13 A I don't know of any
14 instances either.

15 Q Yes. Do you think that
16 would be possible, something that you could do?

17 A Oh sure. The Commissioner
18 can revoke or issue a licence based hopefully on our
19 advice when it pleases him.

20 Q Now, if we could turn to
21 you, Dr. Stephen, on the letter that you were kind enough
22 to provide us with. This is the letter, Mr. Commissioner,
23 that has been circulated to the participants, and a
24 copy of it has been made an exhibit, and it's in
25 reply to a letter from Miss Allison dated January 19th
26 in answer to some questions she had asked then. I'm
27 not going to go through all the questions, Dr. Stephen,
28 but there are some amplification that I'd like to see
29 if you could provide on some of your answers you provided
30 here. Now, do you have a copy of that, Mr. Commissioner?

Monrope, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 Mr. Commissioner, do you have a copy of that letter
2 before you?

3 Now with regard to the second
4 question No. 2, in any event, how long does C.W.S. have
5 to consider a permit or the application; now your
6 answer is provided as (c):

7 "Normally C.W.S. must consider an application
8 for a permit within 30 days to conform with
9 Northwest Territories land use regulation
10 stipulations."

11 Do you consider this to be a requirement, the 30 days,
12 or is it something you do to facilitate the adminis-
13 tration?

14 WITNESS STEPHEN: The land
15 use regulations must say that the permit must be issued
16 within 30 days or good reasons given why not, and we
17 try to tie our permits to the land use regulations and
18 that's how that 30-day period enters it.

19 Q Now, if you have reserva-
20 tions about an operation for which a permit has been
21 requested, can you delay it, or do you refuse it and
22 ask them to re-submit it after you've had more time to
23 consider it?

24 A What we do is, if insuf-
25 ficient information is available, we can ask for an
26 extension of that 30-day period.

27 Q Do you find that 30
28 days works out pretty well, or do you find it too short?

29 A It works out pretty well.
30 It has improved as our body of knowledge has improved.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 Q You have no reluctance
2 for C.W.S. to ask for an extension if you feel one is
3 required?

4 A No.

5 Q I take it you must get
6 pressure from operators who want to operate in a
7 certain season to give you -- to give them the response
8 within the time period.

9 A Usually ⁱⁿ very few instances
10 are we under extreme duress to issue a permit in a hurry.
11 Companies usually plan their operations a long time in
12 advance.

13 Q We've had some evidence
14 on a project that involved quarrying in the Campbell
15 Hills area, and in the application for that permit
16 the company had applied a long way in advance but they
17 did say, "We want to know by such-and-such a date
18 because we have a lot of expensive equipment that we
19 want to be able to order." That's what you mean by
20 that kind of pressure, I take it.

21 A Yes.

22 Q Now, the fourth question,
23 which explained the similarities and differences
24 between the sanctuary permit system and that used by
25 Department of Indian & Northern Affairs and land use
26 operations and can C.W.S. refuse to allow an operation
27 in a sanctuary if Indian Affairs approves it?

28 I take it from your answer
29 that you can refuse an operation which has been approved
30 under the land use regulations.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

A Yes.

Q And an operator must have both permits before he proceeds.

A Correct.

Q Now, have you ever forbidden any operation which Indian Affairs has approved from their point of view?

A Not to my knowledge.

Q Is that because you're also on the Land Use Advisory Committee and it would have been stopped there, or is there some other reason for it?

A Yes, and sometimes these things are stopped at very preliminary stages. For example, there is a search for a site for shallow draught harbour in the Beaufort Sea, and we clearly indicated to the proponent in that case that Kendall Island is out of bounds and that he'd better not look there because we wouldn't issue him a permit.

Q So you nipped that one before you even get an application.

A That's right.

Q Now, in question 6 you were asked whether you require that a bond be posted in all situations and the extent of the bond. I gather you can ask for a bond but that you haven't to date.

A No. We have no jurisdiction under the Sanctuary Regulations to ask for a bond.

Q And is that true of

Mosnop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 cleanup as well?

2 A Stipulations of the permit
3 identify the cleanup requirements.

4 Q Well, let's take a situa-
5 tion where you might have a bad spill of toxic substan-
6 ces within a sanctuary. You might want it to be cleaned
7 up. What powers do you have if the operator refuses or
8 is unable to clean it up?

9 A There is in other words
10 it's a stipulation with a permit, I think you have a
11 copy of an example there, if he doesn't -- if the
12 operator is unable to cope or unwilling to cope, then
13 we can cancel his permit and put other means of cleaning
14 it up to work, and there is within Environment Canada
15 there are contingency plans, one of which is called
16 a regional environm ental emergancy team which identifies
17 who does what, by whom, and when, under which circumstances.

18 Q That means, though, that
19 we pay for it as taxpayers, as opposed to the operator
20 if he is unable or unwilling to.

21 A He can be charged for it.

22 Q The maximum fine is \$300.

23 A No, no, I mean the
24 proposition or the policy of Environment Canada is/that
25 the polluter pays.

26 Q All right, now would you
27 like to see a provision of a bond, because there may be
28 some circumstances where the contractor goes bankrupt or
29 disappears.

30 A I think that question

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 has been adequately answered by Mr. Mossop. The question
2 is how much, and what evidence is required to -- what's
3 the word -- capture the bond.

4 Q All right.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A A good example would be
2 with the Arctic waters oil and gas regulations where
3 there are provisions for bonds and questions arise about
4 the adequacy of the amount of the bond.

5 Q All right. Well, there
6 are problems with bonds. I take it though that you
7 would agree that there are circumstances where the
8 public may be saddled with the expense of clean-up
9 if the operator is unable to clean up.

10 A Yes.

11 Q But you feel that there --
12 you are happy without even the option of a bond?

13 A I beg your pardon.

14 Q You feel you are happy
15 without even having the option that you require a bond
16 in certain circumstances?

17 A One thing I should make
18 clear is that we can't fool around very much with the
19 Migratory Birds Treaty which governs these. This is the
20 legal precedent for these regulations and the Migratory
21 Birds Convention Act so we're quite limited legally in
22 what we can do by way of asking for bonds. So I think
23 it should be tackled in some other way.

24 Q You have stated though
25 that that treaty is being renegotiated in other areas?

26 A Uh-uh-uh-uh -- I didn't
27 say that and it's highly unlikely that it ever will be.
28 The reasons being that the treaty is with the United
29 States. They have similar treaties with Mexico and
30 Japan which would also require renegotiation. And we

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 would also have to open the rights of all states and
2 provinces to migratory birds. That would have to be
3 re-established if the treaty was open for renegotiation.

4 Q So we're stuck with that
5 as well as the \$300 fine?

6 A I think so. Unless some
7 legal experts can find a way around it.

8 Q Now, you stated in the
9 answer to question 7 that you consider none of your
10 operating conditions to be unenforceable. Now, one of
11 your operating conditions in bird sanctuaries as I
12 understand it is a minimum flight level.

13 A A minimum what?

14 Q Over-flight level of
15 aircraft.

16 A Yes.

17 Q But we have heard other
18 evidence that that is unenforceable.

19 A I go on to say, you asked
20 that question later on.

21 Q 25

22 A Question -- I think it is
23 question 13, and the answer is that air traffic is
24 regulated by the Ministry of Transport and the second
25 part of that question -- what we stipulate are aircraft
26 controlled under the control of an operator, we stipulate
27 minimum flight elevations, routes and time of flying,
28 type of aircraft, things of that sort. And those may
29 be altered recognizing that weather conditions can
30 force pilots to lower elevations to satisfy air safety

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 requirements and that the weather, air safety regulations
2 and pilot judgment are not controlled by us.

3 Q All right. Well, let's
4 look at your permit that you gave us under condition 25:

5 "Aircraft flights are to maintain a
6 minimum above ground altitude of 1500 feet
7 whenever possible and shall follow the
8 recommended flight path as shown on the
9 attached map."

10 So you are saying that that only applies when the
11 weather permits?

12 A Yes.

13 Q Well, do you feel that
14 they shouldn't be flying when the weather doesn't
15 permit them to fly at those levels?

16 A Well, that is up to --
17 partly up to Air Traffic Control. In other words --

18 Q But the Air Traffic
19 Control isn't responsible for these permits and nor do
20 they have minimum flight levels themselves over bird
21 sanctuaries. Is that correct?

22 A That's right.

23 Q So that's your baby?

24 A Well, we -- what we do
25 is put that in and the question of catching a pilot
26 in violation of that stipulation and then seeing
27 whether or not the evidence will stand up and you know,
28 that's the case with all investigations and prosecutions.

29 Q You are saying too that
30 this only refers to aircraft owned by the operator?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A Controlled. They could
2 be chartering it.

3 Q So it could be a charter
4 and you consider that to be controlled?

5 A (Nods head "yes")

6 Q And in your experience
7 in northern flying does the person who charters the
8 aircraft have any control over the operators' flight
9 levels?

10 A Yes.

11 Q And are these things
12 translated into notice to airmen?

13 A I don't think these are
14 but we have had excellent cooperation from the Ministry
15 of Transport in Wood Buffalo Park for example in over-
16 flights of whooping crane nesting area where they do
17 issue a notam.

18 Q Does the operator show
19 his permit to the pilots so that they will know what
20 the minimum overflights are?

21 A Supposed to.

22 Q That's not a condition
23 of the permit though?

24 A Not, but it could be.

25 Q All right. Would you
26 recommend that it should be?

27 A I would say, "yes".

28 Q Do you know of any operation
29 which has curtailed its activities because of inability
30 to meet the flight level conditions?

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 A Yes, Imperial Oil Taglu
2 has done -- has curtailed operations on occasion.

3 Q Right. Question 9 asks
4 how frequently are inspections carried out in the delta
5 and on Banks Island. And you say "as often as necessary."
6 Can you tell me how often is necessary and how you
7 know when it is necessary?

8 A That's a judgment made
9 by an enforcement officer and he usually knows what
10 stage operations are at and tries to arrive unannounced.
11 And it also depends on his budget, how much money
12 he has left for charter flying or whether or not he
13 can share charters with other elements of Environment
14 Canada.

15 Q So, it is also a question
16 of availability of funds?

17 A It's always a question
18 of availability of funds in any government operation.

19 Q Is it a fact then that
20 frequency of inspections will vary as to the distance
21 from the base to the operation of your officer?

22 A Yes, that's right. I don't
23 think any of our enforcement officers have been to our
24 sanctuaries in Hudson Bay or Baffin Island, for example.

25 Q Would you recommend that
26 if there were an operator who wanted to carry out an
27 operation in a remote area that he bear the cost of
28 your inspections as they are necessary?

29 A No, we wish to maintain
30 an arm's length relationship with industry.

1 Q Well you charge a fee
2 for other things. You charge a fee for removal of
3 gravel which is called a royalty and --

4 A We don't charge a fee
5 for removal of gravel.

6 Q No, but the government
7 does and it could, I take it, be part of the amount
8 paid for a permit that it takes into consideration the
9 area and the difficulty of enforcement of the regulation

10 THE COMMISSIONER: I don't
11 know whether it is worthwhile to pursue that with Dr.
12 Stephen. That's a matter of government policy. The
13 question is whether the taxpayer generally should pay
14 for supervision of environmental stipulations or
15 whether the particular industry that seeks to carry
16 out an operation should. That's a question that keeps
17 coming up but are we getting very far with it by pursuing
18 it with Dr. Stephen. He said, "no". He said, "I don't
19 want to be beholding to the industry in any way. I
20 want general revenue in Ottawa to supply the funds
21 for my people to go there to carry out their inspections."
22 I can see his point and he has made it. That's it, isn't
23 it?

24 We're going to adjourn
25 for lunch now but before we do, there is an issue that
26 takes us back to Phase 1, Engineering and Construction
27 that still concerns me and let me put it this way and
28 I outline it so that counsel for Arctic Gas and
29 Foothills can mull it over when they see the transcript.

Simmons, Mossop, Stephen, Norton
 Cross-Exam by Bayly

Arctic Gas plans to build a pipeline in the winter. They intend to undertake a program of winter construction and they say that their construction season will begin, and I'm putting this roughly because it depends on whether you're-- on the North Slope or on the Central Mackenzie or on the Upper Mackenzie -- but they say, essentially, that their construction season will be one lasting from late October to mid-April, that is, five or six months.

All of Arctic Gas's planning is on the footing that it will build this pipeline in the winter season. All of the environmental safeguards that they have proposed are on that assumption. For example, their own environmental advisors, the governments, the inquiries, have all made it plain that Arctic Gas should stay out of the north coast when the caribou are calving and the birds are nesting and feeding there in the summer.

Now Foothills, . plans to build its pipeline in the winter but they say that you can't work throughout the Arctic winter. They say that on the north coast, you can't start until the beginning of February. They have tried to show that Arctic Gas would have to shut down in December and January.

Arctic Gas tells us that it will take three years of pipe laying to build this pipeline. What concerns me is this; if their construction season is gutted, if they lose two months each winter, what are they going to do? What are they going

Simmons, Mossop, Stephen, Norto
Cross-Exam by Bayly

1 to allow the Government of Canada, the Territorial
2 Government and any other regulatory authority that may
3 be brought into being to supervise the project? What
4 are they going to ask them to do?

5 They will have two choices.
6 They can take another year or two years to complete
7 the project. That means that the interest on the
8 borrowings will mount up. The meter will be running on
9 the borrowings, and the borrowings we know are vast.
10 Or will they seek to extend the winter construction
11 season at one end into the spring and the summer and
12 at the other end into the fall?

13 If that occurs, it may well
14 be that the whole program of environmental safeguards
15 will be undermined.

16 Now, we have tried to get to
17 the bottom of this. We've had the full cooperation of
18 Arctic Gas, Mr. Williams, who is their principal
19 witness on this subject and a most eminent engineer
20 with a wealth of experience behind him has insisted
21 they can do it.

22 The Foothills witnesses say
23 they can't. Now, in this speech that was introduced
24 in evidence yesterday by Frank P. Moolin Jr., Senior
25 Project Manager on the Alyeska pipeline, a speech
26 delivered in New York City on February 18th. He says
27 at -- the page doesn't seem to be numbered -- page 11.
28 He says:

29 "We shut down the project for two months this
30 winter. The Arctic winter is too severe for our

1 work force and equipment."

I am going to ask Commission Counsel to consider whether Commission Counsel shouldn't see if Mr. Moolin can be brought here as a witness. I shouldn't say "brought" here -- asked -- to come and we've asked many witnesses to come from Alaska such as Dr. Norton and they've all have been willing to come and have all been very helpful.

14 But it seems to me with this
15 pipeline being built in Alaska, it is, in a sense, a
16 laboratory that we should learn all we can from the
17 experience there and if they just can't work -- if
18 the equipment and the men cannot produce in December
19 and January, let's find out now. Let's get to the
20 bottom of this now. That's what the Inquiry's for, so
21 that we don't find out half-way through the project
22 and confront the Government of Canada with a painful
23 choice at that time.

So, I'm not suggesting that we should reopen this whole thing. I'm not suggesting we should reopen phase one except to see if we can't learn something more about the feasibility of Arctic Gas's winter construction program. If this pipeline can't be built in three years because of the severity of the Arctic winter, let's find out now.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Bayly

1 When I say that Commission
2 Counsel should consider asking Mr. Moolin to come over
3 to testify, I realize that there may well be others
4 with more specialized knowledge who ought to be asked
5 to testify as well. That is, people on the Alaska
6 project.

7 But Mr. Moolin, reading his
8 speech, appears to be the man who said we are not
9 going to work. We are going to shut down for two
10 months. We cannot go on. So I would like very much
11 to hear from him and I don't think it's fair to try
12 to form a judgment on the basis of a sentence or two
13 in a speech.

14 So, I'm not suggesting that
15 I have made up my mind one way or the other on that
16 issue, but it is important. Important to both of
17 these companies and what I am saying is I want to hear
18 from Mr. Moolin before I do make up my mind.

19 O.K. We'll adjourn till 2:00.

20 (PROCEEDINGS ADJOURNED TO 2:00 P.M.)
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Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

WITNESS STEPHEN: Mr. Commissioner, I would like to clarify one point that I made just before lunch, about the arm's length relationship that we hold with industry, and that applies particularly to our enforcement activities more than our management activities involved in research and surveys, where we have somewhat more lenient attitudes about co-operating with industry.

MR. BAYLY: Following that up, Dr. Stephen, without getting into the policy of it I take it it does occasionally mean that you are at arm's length from not only industry but from what's going on because of funding constraints.

A That's not the case at all. An example of the means of maintaining an arm's length with industry is -- was in the operation of the Beaufort Sea project where industry paid a large portion of the cost. However, the 32-page contract between industry and the Government of Canada was made with Treasury Board and we obtained our money from Treasury Board rather than directly from industry.

Q All right, so what you're saying is that as long as you don't negotiate directly with industry yourself to fund monitoring and surveillance, ^{if} the government has made some arrangement that they should participate, that's their business.

A Another example is in our operations in the Alberta Oil Sands; we clearly distinguish between research being conducted there and

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly

1 enforcement activities. If we have to send an enforcement
2 man in to do his job, it's all done with our money.
3 Our investigators -- biological investigators are
4 clearly told that they should merely report possible
5 infractions and not mess around themselves.

6 Q All right, well let me
7 give you an example. I understand I.T.C. has been
8 complaining that there hasn't been surveillance at the
9 Bylot Island Sanctuary where they're concerned that
10 things are going on that should be looked at by the
11 Canadian Wildlife Service. Are you acquainted with that?

12 A I'm not sure what you're
13 referring to, but I.T.C. complains about us putting
14 bands on swans and things like that, and there have been
15 some bandings undertaken on Bylot Island, is that what
16 you're referring to?

17 Q No, I was referring to
18 activities there as opposed to your own activities.
19 That is industrial activities.

20 A I mentioned earlier
21 today our enforcement officer in Inuvik has been unable
22 to visit those eastern Arctic sanctuaries, however
23 we have a man in Winnipeg who I expect will be making
24 regular inspections there in the future.

25 Q Now, we have asked in
26 question 17 with regard to infractions of permit stipula-
27 tions which have been reported, and are you able to
28 give us a number?

29 A Question 17 on my copy
30 says that how many wells have been drilled and so on.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Bayly
Cross-Exam by Carter

1 How many miles of seismic line.

2 Q Yes, and how many infrac-
3 tions have been reported? That doesn't appear to be
4 answered in this.

5 A I don't have the answer
6 to that.

7 Q You weren't able to
8 obtain that?

9 A Yes.

10 Q Would that mean that the
11 C.W.S. doesn't have a record of it?

12 A Yes, as I say, it
13 took us three months to answer the questions that you
14 posed to us, and that would require digging through
15 files, going back a while.

16 Q All right, so it's a ques-
17 tion that you don't keep a consolidated list; they would
18 be in the individual files.

19 A Yes.

20 MR. BAYLY: Those are all the
21 questions I have. Thank you very much, gentlemen.

22
23 CROSS-EXAMINATION BY MR. CARTER:

24 Q Dr. Stephen, in your
25 evidence you talked about the importance of monitoring
26 as opposed to surveillance, monitoring during or after
27 construction, and there's been evidence by environmen-
28 tal witnesses for Arctic Gas about the monitoring that
29 the pipeline company would do itself. Do you see a need
30

Mossop, Simmons, Stephen, Norton
Cross-Exam by Carter

1 for co-ordinating that monitoring?

2 A I don't see a need for
3 it. I see some advantages in it.

4 Q So as to prevent duplica-
5 tion and having the same people in the same place at
6 the same time, that sort of thing?

7 A Yes, and I see a need
8 for the government to have enough information to keep
9 the industry honest.

10 Q Have you any plans now
11 along those lines?

12 A They're being worked out.

13 Q They are?

14 A In other words, we are
15 planning.

16 Q One other area, on page
17 11 of your evidence, you referred to some of the areas
18 of program involvement of the C.W.S. and at the bottom
19 of the page referred to toxic materials, spill contingen-
20 cy plans. I'm wondering if you have had any spills
21 investigated elsewhere than the Mackenzie Valley, where
22 we don't have as much of the industrial activity with
23 these fuels yet. Have you had any spills investigated
24 that might offer some information as to what the impact
25 could be?

26 A Spills of what?

27 Q Well, oil that would be
28 similar to the diesel oils, the fuel oils that would
29 be used in construction of the pipeline and stored at
30 various points along the right-of-way.

Mossop, Simmons, Stephen, Norton
Cross-Exam by Carter

1 A I guess my first involve-
2 ment with oil spills was in 1970 when I was, quote
3 "on-scene commander"end of quote, for a spill of oil that
4 went down the Athabasca River, escaped from the Great
5 Canadian Oil Sands plant near Fort McMurray, and as
6 the oil went down the river it became obvious that there
7 was some threat to the National Park and Wood Buffalo
8 National Park, and the Migratory Bird Sanctuary,
9 Richardson Lake Migratory Bird Sanctuary, with possible
10 effects to the water supply at Fort Chip and possibly
11 Fort Smith, so I was asked by our Minister at the time,
12 the Honourable John Chretien, to take charge of
13 federal activities there. The gory details are that
14 the spill was spreading down the river and through the
15 Athabasca River, and the objective of the team, which
16 included industry, was to contain the spill and a
17 site was chosen on the Riviere Deroche Channel outlet
18 from Lake Athabasca to try and contain it.

Simmons, Mossop, Stephen, Norton
Cross-Exam by Carter

1 Industry cooperated to the
2 extent of chartering large aircraft to fly in bales of
3 hay and a half-inch steel cable plus chainlink fence
4 with which to construct a boom, a Ministry of Transport
5 tug which is used for setting out navigation aids in
6 Lake Athabasca was unable to pull that boom across the
7 river so it never did close off.

8 The industry had been using
9 emulsifiers to disperse the oil and one Sunday morning,
10 we woke up -- first of all, on Saturday night, there
11 had been strong southwesterly winds which blew the oil
12 slick out into Lake Athabasca and we went out to look
13 for it in aircraft the following morning and instead
14 of oil, we found about fifty acres of soap suds.

15 We 've been monitoring the
16 Peace-Athabasca Delta since then for other reasons and
17 have had no visible evidence of any effect on the
18 environment. As a matter of fact, the only evidence
19 of effect on wildlife was a beaver that had been found
20 oiled by an Alberta conservation officer which was
21 dispatched with an axe and displayed in a photograph
22 in the "Edmonton Journal" as evidence of the effect on
23 wildlife.

24 Q Would this be -- this
25 was a synthetic crude that's --

26 A Syn-crude, that's right.
27 Synthetic crude. A fairly light oil about the
28 consistency of fuel oil.

29 MR. CARTER: Sir, I had some other
30 questions but they were covered by other counsel in

Simmons, Mossop, Stephen, Norton
Re-examination

1 lenty cross-examination, so that's all I have.

2 MR. GOUDGE: I just have one
3 or two matters in reply, if I might sir, before we
4 conclude this panel. First of all, I should have said
5 at the beginning, I think it's obvious with these as
6 with others that though employees of the Government
7 of Canada, these gentlemen, and the Territorial Government's,
8 these three gentlemen, excluding Dr. Norton appear
9 in their personal capacities subject to what we heard
10 from Mr. Mossop as the approval given his evidence in
11 chief.

12 RE-EXAMINATION BY MR. GOUDGE:

13 Q Secondly, Mr. Mossop, I would
14 like to put to you some information which we've obtained
15 in response to a request made of you yesterday or made
16 of me yesterday by Bayly, and ask you for your comments.

17 Mr. Bayly asked Commission
18 Counsel yesterday to obtain certain information connected
19 with the appearance of a cat off the coast of the Yukon
20 very recently. The request was put in terms of whether
21 it involved pipeline construction and the simple answer
22 to that is no, it does not. The information we've ob-
23 tained indicates that the cat referred to relates to
24 Dr. Lewis's ongoing study of coastal erosion and sedimenta-
25 tion that he's provided evidence about to the Inquiry.
26 The work is covered by an ongoing land use permit which
27 covers a detailed study at the Kay Point area on the
28 Yukon coast.

29 The work this spring involved
30 shallow test drilling for about two weeks and included

Simmons, Mossop, Stephen, Norton
Re-Examination

1 the cat in question and that was covered by an amendment
2 to the permit. Verbal approval for the cat was given
3 on February 25th and by letter later, dated March 25
4 signed by Mr. Hollingshead.

5 The cat arrived on site on
6 March 27 and has been used essentially to pull the train
7 across the sea ice. It's been doing very minor work
8 on the coast. It's mainly been working on the sea ice.

9 I wonder, Mr. Mossop, that
10 information is the information we obtained. Do you
11 have any comment on that sir, in light of the testimony
12 you gave yesterday?

13 WITNESS MOSSOP: Yes, I think
14 I should make a comment. This is a very serious matter,
15 I think. The question that was asked me was the -- whether
16 we are effective in implementing management concerns
17 in the use of land in the Yukon Territory today, and
18 I think you would agree with me that there was in no
19 way implied any irregularity or wrong-doing on the part
20 of those that administered the land use regulations in
21 the Yukon territory. These people are very dedicated
22 people, but are bound by the terms of reference under
23 which they operate and I think this is a good example
24 of one of these things.

25 Amendments can be made to land
26 use regulations or land use permits and this, in
27 practise, sometimes happens without consultation with
28 the Land Use Committee, and often changes the nature
29 of land use operations from our point of view, from
30 our bias in a very violent way.

Simmons, Mossop, Stephen, Norton
Re-Examination

1 I was asked if land use opera-
2 tions ever occur without our input and I think this
3 remains as a very good example. I think you'd agree
4 that a bulldozer on the north coast of the Yukon could
5 give us some concern, given our mandate as basically a
6 conservation wing of the Yukon Government to manage
7 game.

8 The facts are that the
9 amendment was made on the 25th. The land use meeting
10 that I referred to occurred on the 26th when we were
11 informed that the amendment had already been made.

12 Q Thank you sir. Dr. Simmons,
13 you were asked this morning by my friend Mr. Bayly
14 about Nor Cor and the research permit that appeared to
15 be lacking. What's the nature of a research permit and
16 what does it do?

17 WITNESS SIMMONS: The purpose
18 of the permit is to ensure that we receive a report
19 on research results and another purpose is to see to it
20 that there is little or no duplication of research
21 effort. We have a biologist under every rock here now
22 and we'd like to keep them from stumbling over each
23 other, if possible.

24 Q Essentially though, I take
25 it, research permits do not regulate on-site activity?

26 A No, they don't.

27 Q Do you know whether Nor Cor
28 had obtained any other permits to undertake the work
29 that was described this morning?

30 A I believe they did. It

Simmons, Mossop, Stephen, Norton
Re-Examination

1 wouldn't be a land use permit since it was a sea-ice
2 operation, I don't think, but they may have been under
3 a permit from the Department of Environment.

4 Q Dr. Stephen, can you tell
5 us that?

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Mossop, Simmons, Stephen, Norton
Re-Examination
Re-Cross-Exam by Bayly

1 WITNESS STEPHEN: They would
2 obtain a permit, I believe, under the Ocean Dumping Act.

3 Q And do you know whether
4 in this case they had one?

5 A I'm unaware of that.

6 Q Yes.

7 A That doesn't mean to say they
8 don't have one, it's just that I don't issue those.

9 Q Then, Dr. Simmons,
10 finally you were asked this morning about your Banksland
11 report and an implication might have been left which
12 I'd like to ask you about. Do you know whether there
13 was any relationship between your report and the grant-
14 ing of approval in principle for offshore drilling?

15 WITNESS SIMMONS: No. We -- our
16 terms of reference didn't include any offshore drilling
17 operations. We did feel free to comment on the prospect
18 of offshore drilling, in this report, but that doesn't
19 mean that it was required by our terms of reference.

20 Q Do you have any comment
21 on that, Dr. Stephen?

22 WITNESS STEPHEN: I believe that
23 the work that Dr. Simmons and Dr. Barry did was con-
24 ducted in 1972, and I believe that approval in principle
25 was given by Cabinet for offshore drilling in 1973.

26 MR. GOUDGE: Thank you. Those
27 are all the questions I have of this panel, Mr. Commis-
28 sioner.

29

30 RE-CROSS-EXAMINATION BY MR. BAYLY:

Mossop, Simmons, Stephen, Norton
Re-Cross-Exam by Bayly

1 Q Just arising out of those
2 questions and following up the answer that Dr. Stephen
3 gave with regard to a permit under the Anti-Dumping --
4 the Ocean Anti-Dumping Act, as I understand that project
5 there is no dumping of anything, they're studying currents,
6 and I just query why they would require that sort of
7 a permit. Perhaps Dr. Stephen can help us out.

8 WITNESS STEPHEN: My understand-
9 ing of that project is perhaps historical and it's a
10 contract that has been let by the Environment Protection
11 Service of Environment Canada. They originally proposed
12 to do work last year on a fairly small scale of dumping
13 some eight barrels of oil into the ice lead which runs
14 from Herschel Island over to about Tuktoyaktuk, and
15 the experiment was postponed mainly because they had
16 not consulted with the residents of Tuktoyaktuk, that
17 was pointed out to them by us and others, and they
18 hadn't taken account of the risks of polar bears which
19 patrol that lead in search of food. So for those two
20 main reasons and because of the imminent -- imminence of
21 the passage of the Ocean Dumping Act, E.P.S. postponed
22 that project. Now what form it's in now I'm not sure,
23 but I think the answer they're after is what happens
24 to oil in that lead.

25 MR. BAYLY: Thank you sir.

26 MR. GOUDGE: That concludes
27 this panel, Mr. Commissioner.

28 THE COMMISSIONER: Well, thank
29 you very much, gentlemen, Dr. Stephen, Mr. Mossop, Dr.
30 Norton and Dr. Simmons. We appreciate your coming and

M.A. Heacock
In Chief

1 have all benefited from the testimony you've given and
2 we hope that it won't be necessary to bring you back
3 again, except in the case of Dr. Norton; but if it is,
4 we'll look forward to that and we hope that you will
5 too.

6 (WITNESSES ASIDE)

7 MR. GOUDGE: That panel can
8 stand down, sir. We would propose to proceed with Mr.
9 M.A. Heacock of Transport Canada.

10

11 M.A. HEACOCK, sworn:

12 DIRECT EXAMINATION BY MR. GOUDGE:

13 Q I take it you're currently
14 an inspector of civil aviation with the Air Regulation
15 Branch of Transport Canada, is that so?

16 A That is correct.

17 Q And you've held that
18 position since 1964?

19 A That's correct.

20 Q And you're a qualified
21 pilot, and in your present position you engage, as a
22 result of your position, in extensive flying.

23 A I could say that, yes.

24 Q And for the preceding 20
25 years, from 1945 to 1964 you were a member of the Royal
26 Canadian Mounted Police and worked for them as a pilot.

27 A That's correct.

28 Q And throughout that period
29 you were based, or for five years of it, you were based
30 in Fort Smith, and for that entire period you flew

M.A. Heacock
In Chief

1 extensively throughout the north.

2 A That's correct.

3 Q Sir, Mr. Heacock's
4 testimony is designed to comment on the workability
5 of controlling flight paths, altitudes and flight
6 frequencies as a means of minimizing disturbance to
7 wildlife by aircraft. With that in mind, Mr. Heacock,
8 I wonder if you would turn to the first page of your prepared
9 evidence and if you could begin to read it to the
10 Commission, please?

11 A I start to read then?

12 Q Yes please.

13 A Authority to regulate and
14 control aeronautics is vested in the Government of
15 Canada and under Part I of the Aeronautics Act, the
16 Minister of Transport may make orders or regulations
17 relative to the supervision and control of all aircraft
18 in Canada with the exception of military aircraft of
19 her Majesty.

20 Transport Canada regulations
21 are basically similar for aircraft operations in both
22 Northern and Southern Canada. There are some exceptions
23 such as the flight precautions in sparsely settled
24 areas. Air Navigation Order Series V, No. 12 defines
25 the limits of the sparsely settled areas and lists the
26 additional telecommunication equipment and emergency
27 equipment required for such flights.

28 Additional Transport Canada
29 controls apply to specific areas related to national
30 security such as the Distant Early Warning Identification

M.A. Heacock
In Chief

1 Zone (the DEWIZ), A.N.O. Series V, No. 14, and to
2 specified National, Provincial and Municipal Parks
3 (A.N.O. Series V, No. 10). Flight restrictions in parks
4 are in support of national, provincial, or municipal
5 legislation designed to prohibit or limit access to
6 wilderness areas.

7 Q Pausing there for a moment,
8 Mr. Heacock, I wonder if you could amplify a little
9 on what's the nature of these flight restrictions in
10 National Parks are and how they apply?

11 A The restrictions in
12 National Parks restrict the places where aircraft may
13 land. We'll take for example Banff, you can land at
14 Banff Airport without our authority, but having landed
15 and if you wish to travel to other places in the park
16 you require permission from the parks superintendent.
17 There is no restriction on altitudes that aircraft will
18 fly over the parks. In some of the other parks there
19 are restrictions as to where aircraft will land, or
20 they are prohibited from landing, but this is because
21 they are recreation areas, or there may be boats or
22 swimmers or some other form of activity down there.

23 Q Sorry, would you carry
24 on then, please?

25 A Transport Canada legisla-
26 tion is primarily designed to promote aviation in Canada
27 and to ensure that satisfactory safety standards are
28 maintained. To this end, wildlife, particularly migra-
29 tory birds, are considered hazards to aviation. Charts
30 are printed in aeronautical^{information} publications that show the

M.A. Heacock
In Chief

1 major migratory routes, staging areas, flight habits,
2 etc., of a variety of migratory birds. These charts
3 are intended to warn pilots of areas which could be
4 hazardous to the flight during migratory periods.

5 Although Transport Canada
6 publications stress the hazards to aviation caused by
7 birds, we are not insensitive to the requirements to
8 protect wildlife from aviation. In the interests
9 of conservation, pilots of aircraft are requested to
10 avoid flights below 2,000 feet over bird nesting areas
11 and over herds of wild animals. Specific areas to be
12 avoided are listed in aeronautical^{information} publications and
13 although avoidance of these areas is not mandatory,
14 pilots have to a large degree co-operated in this regard.
15 Transport Canada publications also remind pilots of the
16 provisions of the Migratory Bird Regulations regarding
17 the use of aircraft to molest or hunt migratory birds.

18 Q I wonder, sir, if there
19 have been any special studies to assess the degree of
20 pilot operation co-operation there has been with these
21 aviation notices?

22 A I wouldn't say there
23 has been a study in the true sense of the word, Mr.
24 Goudge, but I believe they are effective, because
25 before a notice is printed somebody has brought it to
26 our attention that it is required, and the notices are
27 printed and sent out, and if we don't have any complaints
28 after this we assume they're effective, and generally
29 once a notice has been sent out to airmen we don't
30 get complaints.

M.A. Heacock
In Chief

1 Q Again I apologize. Would
2 you continue, please?

3 A Having outlined the
4 general means of controlling aircraft operations which
5 are available to Transport Canada, I will now address
6 the more specific points relating to the proposed pipeline
7 projects, namely:

8 (a) Control of aircraft using airstrips. As these
9 strips will largely be privately owned, the owner-operat
10 or would have the authority to prohibit their use
11 except for emergencies.

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M. A. Heacock
In Chief

There are sufficient public licensed airports such as Inuvik, Norman Wells, Wrigley, Fort Simpson and Fort Nelson to provide for itinerant aircraft operations.

(b) Flight restrictions along the pipeline right-of-way. Although it would not be feasible to restrict flight operations along the whole pipeline, if in the opinion of the appropriate authorities there are specific areas in need of protection, pilots could be advised to avoid these areas.

(c) Flight altitude restrictions 2,000 feet above ground. Aircraft operating under instrument flight rules (or IFR) would not be greatly affected by the height restrictions of 2,000 feet above ground. However, the effect of such restrictions on aircraft operating under visual flight rules, (VFR), would be prohibited. Such aircraft while in controlled air space, must remain 500 feet below cloud and rely on visual ground contact for navigation.

Such a restriction would effectively limit their operations to weather conditions with a cloud base in excess of 2,500 feet above ground.

Helicopter operations would be even more severely restricted in that their normal operating altitude is below 200 feet above ground. Correction, 2,000 feet above ground.

Helicopters, of course, are particularly useful for such construction projects in that because of their slow speeds and landing flexibility, they can continue to operate under very poor weather

M. A. Heacock
In Chief

1 conditions. Even after the project has been completed,
2 periodic aerial surveillance at low altitudes will be
3 required.

4 (d) Regulation of frequency
5 of flights. The frequency of flights would be most
6 difficult to forecast or to control. Operators would
7 be required to take full advantage of suitable weather
8 conditions and because of weight limitations, helicopters
9 and small fixed-wing aircraft operate on a shuttle
10 basis.

11 (e) Increased access and
12 hence, increased hunting as previously mentioned, it
13 is assumed that the new airstrips will be privately
14 owned and operated and hence, their use can be effectively
15 controlled by the owner, operator.

16 (f) Predictions for aircraft
17 activity in the next five to ten years. An increase of
18 five to six percent per annum in itinerant aircraft
19 traffic is predicted plus the pipeline construction
20 peak period of three to four years. This peak period
21 will likely result in an increase of 30 percent at
22 the main airports at Inuvik, Fort Simpson, Norman Wells
23 and a 100 percent increase at the work camp aerodromes
24 such as Wrigley, Fort Norman and Fort Good Hope.

25 It is clear that within
26 existing legislation and resources, it would be most
27 difficult for Transport Canada to guarantee full control
28 over all flights operating within such a vast region.
29 The imposition of a 2,000 foot minimum altitude restric-
30 tion for instance, would significantly impede aircraft

operations and construction contractors and would be impossible to fully enforce.

There are, however, several measures that could be taken which would reduce the possible effects of aerial activities on wildlife in the area.

(a) Ensure that all privately operated aerodromes are used only on a prior permission basis.

(b) Determine if particularly sensitive areas exist and protect them by ordinances promulgated by the Territorial or Provincial Governments.

(c) Mount an extensive publicity campaign to impress on all pilots, contractors, etc., the importance of protection of wildlife in the area and the serious consequences that may result from any unnecessary disturbance of birds or animals.

Most pilots flying in the north country realize the importance of all mammals in relation to native welfare, and in that policing action would be most difficult. Obtaining their full cooperation would appear to be the most likely means of minimizing disturbance to wildlife. If such a publicity program is considered desirable, Transport Canada could provide a nation-wide coverage through our air information publications.

Q That's good.

A That completes the prepared text.

Q There are two additional

M. A. Heacock
In Chief

points that I would like to ask you about, with your leave, Mr. Commissioner.

First of all, what is your view, Mr. Heacock as to whether the pipeline right-of-way, when it's completed, would be likely to be used as a navigational aid for small aircraft?

A I would assume that that's the pipeline route behind me -- it appears to me that it starts roughly south of Fort Simpson along the 60th parallel and proceeds north, and there's an airway along that route already, that goes as far as Inuvik. So, along this route, the pipeline would parallel an airway that is already in use, so for what it's worth, I expect that it would be used as a navigation aid.

Now, beyond Inuvik, it all depends where the pipeline goes. If the pipeline goes in a straight line between two points, and that's where the aircraft is going, then of course, he'd follow the right-of-way. If the pipeline ran over rough terrain and it was a float plane, I would think the float plane would wish to follow a sheltered water route. So in that case, he probably wouldn't use the pipeline.

A wheel plane, the same thing. If there was a road, he'd prefer to follow a road than the pipeline.

Q Lastly sir, you touch briefly at page four of your evidence in chief on predictions for aircraft activity in the next five to ten years. Is your department, Transport Canada, engaged in any study of that prediction process or is it

M. A. Heacock
In Chief
Cross-Exam by Carter

engaged in any long-term study of that?

A Yes, the western region main office in Edmonton is looking ahead to see what impact the oil industry will have on Transport Canada commitments and they're looking ahead for a period of ten years and their study is very nearly completed. It's called the Mac Plan for short and they have considered all the factors and this incidentally is where the figures, 5 to 6 percent et cetera comes from and the Mac Plan will be available probably in the middle of May for the Inquiry.

Q Thank you sir. We would propose to provide the Inquiry with assistance from that study when it's available, sir and I would ask my friends to bear that in mind in cross-examining Mr. Heacock. The study is not yet final, but we will be undertaking to bring forward to the Inquiry certain information related to it at that time.

Thank you Mr. Heacock. Cross-examination? Mr. Carter would be first, I think, in the normal course.

MR. CARTER: I thought I should go last.

CROSS-EXAMINATION BY MR. CARTER:

Q Mr. Heacock, at page three of your prepared evidence, you refer to aircraft flying VFR and state that:

"Under the present regulations, they must remain 500 feet below cloud while in controlled air space." Could you explain what is meant by "controlled air space"?

M. A. Heacock
Cross-Exam by Carter

1 A The definition of the
2 air regulations is, it's air space in which Air Traffic
3 Control services are provided but basically, it's
4 along the airways, air routes and in the control areas
5 and control zones. For instance, we have a control
6 area around Inuvik that goes 60 nautical miles out.
7 Control zone is ten miles out and the airways, as I
8 mentioned before, heads south in various directions and
9 airways are roughly ten miles wide.

10 Q I think it's -- Sorry.
11 Did you have something else that you wanted to add?

12 A Outside the controlled
13 air space, the only restriction on flight is that you
14 remain clear of cloud.

15 Q I see. I take it that
16 MOT has the power and does establish corridors -- flight
17 corridors?

18 A They establish flight
19 corridors for the safety of aircraft or for the protection
20 of persons or property on the ground. But, -- well,
21 the answer would be yes, they have provided those.

22 Q They have regulations that
23 are, with respect to flight elevations, for example,
24 over towns or cities?

25 A Yes.

26 Q So that the power is there
27 but it just hasn't been used with respect to lessening
28 an impact on birds or animals on the ground?

29 A That's correct.

30 Q Now, from what you said

M. A. Heacock
Cross-Exam by Carter

1 I believe is that it was in response to a further question
2 from Mr. Goudge, you find that the pilots generally
3 follow your regulations and directives even though
4 I guess it's obvious that you can't police them 100
5 percent. You can't have someone following every aircraft.
6 Is that what you found to be the case?

7 A Yes. I would say, yes.
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M.A. Heacock
Cross-Exam by Carter

1 Q Now, I was interested in
2 your comment at page 5 about the impossibility of
3 enforcing a 2,000-foot minimum altitude restriction.
4 If, however, it was made a regulation, would you expect
5 the pilots to follow it?

6 A Yes.

7 Q Now --

8 A Just a minute, we're
9 talking about V.F.R. flight, not I.F.R.

10 Q That's correct. As I
11 understand your evidence, if you're flying I.F.R. you're
12 not affected by the problem of cloud, and you could
13 meet the 2,000-foot restriction.

14 A Yes, instrument flight
15 poses no problem.

16 Q Now, if the plane is
17 only equipped with V.F.R., or it's not equipped with
18 I.F.R. and flying V.F.R., I suppose his only choice would
19 be -- he wouldn't have a choice, he just wouldn't be
20 able to fly if the cloud cover was so low that he
21 couldn't meet the 2,000-foot flight restriction.

22 A The problem would be
23 and more his departure point destination. There would be
24 no approach aids there, so he has to fly with reference
25 to the ground.

26 Q If you assumed that
27 there was a regulation put into effect, that you weren't
28 permitted to fly below 2,000 feet during certain times
29 of the year in certain areas, the reason being for
30 the protection of wildlife, he would just be faced with

M.A. Heacock
Cross-Exam by Carter

1 the situation where he wouldn't be able to fly if
2 the cloud conditions were too low.

3 A That would be it, be
4 restricted.

5 Q Well, alternatively he'd
6 have to have aircraft that was I.F.R. equipped.

7 A Not only that, you'd have
8 to have the airports to operate it from and you'd need
9 the routes.

10 Q And Inuvik would be
11 such an airport?

12 A Inuvik is equipped for
13 I.F.R., yes.

14 Q And I take it that many of
15 the planes that are operating in the north now can be
16 equipped, and many are equipped with I.F.R. 185s, Twin
17 Otters, those sorts of aircraft.

18 A I'd say the Twin Otter
19 more than the 185, the 185 being single engine is
20 generally a V.F.R. plane.

21 Q Is there any reason why
22 it can't be operated I.F.R.?

23 A It's just a safety
24 feature.

25 Q There is some reason why
26 it can't?

27 A Being single engine,
28 you lose the safety feature of being able to carry on
29 in case one of your power plant fails.

30 Q Yes. Is there some regulation

M.A. Heacock
Cross-Exam by Carter
Cross-Exam by Bayly

1 that --

2 A No regulation. I shouldn't
3 say that. There's no regulation for private aircraft.
4 For commercial aircraft, yes, there is regulation.
5 If it's a commercial aircraft and he's carrying passen-
6 gers, it must be a multi-engine airplane; if he's
7 carrying passengers it must be I.F.R.

8 Q Does that apply to
9 commercial aircraft not carrying passengers?

10 A No.

11 MR. CARTER: Those are all the
12 questions I have.

13 MR. HOLLINGWORTH: I thought
14 it had been established with witnesses of this sort that
15 in my case I would be entitled to go next before
16 Commission counsel. I prefer to do so.

17 THE COMMISSIONER: Well, maybe
18 we can proceed then in that way. Mr. Bayly's ready to
19 go.

20

21 CROSS-EXAMINATION BY MR. BAYLY:

22 Q Sir, I take it that if
23 you have aircraft that are equipped with I.F.R. you
24 need the departure and the arrival points equipped
25 with I.F.R. equipment as well, it isn't sufficient just
26 to have Inuvik or whatever these other points are.

27 A And an air route would
28 be required to be established between them.

29 Q All right. Now with regard
30 to your statements on the third page on flight height,

1 can we conclude that, at least from the Ministry of
2 Transport's point of view, that to restrict aircraft
3 to flying 2,000 feet above the ground, flying by V.F.R. that
4 is an unenforceable regulation.

5 A That would be very
6 difficult to enforce.

7 Q And in light of the kinds
8 of weather conditions one can expect, especially in
9 the delta and North Slope, ^{areas} it would virtually mean
10 that for much of the time the aircraft would not be
11 able to fly at all?

12 A It would restrict them
13 a great deal.

14 Q And so you would have to,
15 I assume, look to the contractor if there was a pipe-
16 line being built to impose these restrictions on himself
17 rather than the Ministry of Transport.

18 A The Ministry of Transport
19 could issue the notices to airmen, of course they
20 carry no penalty.

21 Q They would be suggestions
22 and directives, rather than orders.

23 A That's right.

24 Q Now, I'm concerned with
25 your point (e) which speaks about increased access.
26 I take it that when an airstrip is privately owned it
27 can be controlled by the person who is -- who has
28 constructed it and who is there.

29 A It's his private property,
30 that's right.

M.A. Heacock
Cross-Exam by Bayly

1 Q However, after an airstrip
2 like this has been abandoned, I take it it is very
3 difficult for anybody to control its use.

4 A Well, if the owner leaves
5 it, I would say yes.

6 Q There may be a rule, but
7 again there's nobody to enforce it.

8 A It's not an air regulation,
9 or an air navigation order, if there's a rule on it.

10 Q And you wouldn't contem-
11 plate -- the M.O.T. wouldn't contemplate taking over
12 these airstrips, I gather, after construction has been
13 completed?

14 A It would be a consideration
15 but it would have to be considered on merit at the time.
16 I'm not prepared to answer that question.

17 Q Now with regard to the
18 voluntary notices to airmen, is this something that is
19 in effect at present anywhere in Canada, that there are
20 suggestive rather than regulatory notices to airmen?

21 A The notices to airmen are
22 mailed out to all licensed pilots. Does that answer
23 your question?

24 Q Well, what I was really
25 getting at was do most notices to airmen carry a
26 penalty if they are not observed?

27 A No.

28 Q So many of them are
29 suggestive rather than regulatory.

30 A It's an education

M.A. Heacock
Cross-Exam by Bayly
Cross-Exam by Hollingworth

1 program, that's correct.

2 Q All right, and what
3 sort of co-operation do you get from airmen generally
4 with regard to these notices?

5 A I'd say very good.

6 Q So that the thing might
7 quite well
8 police itself/with the possible exception of the flight
9 altitude?

10 A Yes, that's correct.

11 MR. BAYLY: Those are all the
12 questions I have. Thank you very much.

13 MR. BELL: I have no questions.

14 MR. VEALE: I have no questions.

15 CROSS-EXAMINATION BY MR. HOLLINGWORTH:

16 Q Mr. Heacock, I'm wondering
17 about your last response to Mr. Bayly, and I believe
18 his question was, do you expect to get good co-operation
19 with the possible exception of ^{flight} height restrictions, and
20 you agreed with him. I wondered why you excepted height
21 restrictions.

22 A That's a good point.

23 I really shouldn't have agreed with him on the flight
24 restrictions. There is a little ball of wax there.

25 THE COMMISSIONER: Height
26 restrictions?

27 A Height restrictions, sir,
28 yes. Of course, I'll have to go along and say that from
29 my experience the pilots generally take the notices in
30 good faith and go along with them, so following this

M.A. Heacock
Cross-Exam by Hollingworth

1 I would expect they would do the same with the 2,000-
2 foot restriction. But as we have mentioned here, a
3 2,000-foot restriction for V.F.R. flight is going to
4 slow things down considerably.

5 MR. HOLLINGWORTH: Yes, but
6 in fact on page 2 of your testimony you mention that
7 you've had a large degree of co-operation on avoidance
8 of areas, or avoiding flying below 2,000 feet.

9 A That's correct.

10 Q Mr. Heacock, on page 3
11 you're speaking of helicopter operations and you speak
12 of their normal operating altitude of below 2,000 feet
13 above ground. Now, would you agree with me that is
14 more in the sense of helicopters working ^{on the basis of} going up and
15 down with a fair amount of frequency, or working on
16 something that's on the ground, rather than with a
17 flight from point A to point B?

18 A Of course it would depend
19 on the distance they're travelling.

20 Q That's right, and in fact
21 if a helicopter is flying some distance from one point
22 to another it can easily fly above 2,000 feet.

23 A That's right.

24 Q And certainly larger
25 helicopters at least can be equipped for I.F.R. flying.

26 A Right, there are some.

27 Q So that really the
28 restriction you're speaking of would be helicopter
29 flipping up and down the right-of-way delivering goods
30 on the right-of-way or something of that sort.

M.A. Heacock
Cross-Exam by Hollingworth

1 A That's right.

2 Q And there wouldn't
3 necessarily be any restriction with a helicopter flying
4 a large amount of machinery from a supply airport to
5 a spread camp.

6 A I would think if they
7 were hoisting they wouldn't climb too high.
8 Generally helicopters, because of their nature, aren't
9 used for long trips. They're not economical on long
10 trips.

11 (QUALIFICATIONS & EVIDENCE OF M.A. HEACOCK
12 MARKED EXHIBIT 549)

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M. A. Heacock
Cross-Exam by Hollingworth
do

Q What you mean by a long trip?

A Oh, I'd say fifty to a hundred miles.

THE COMMISSIONER: Well, Foothills, the company Mr. Hollingworth represents proposes to use helicopters to supply and re-supply the spreads on the pipeline right-of-way.

A Yes.

Q Suppose you have a helicopter and you're going from Inuvik to a spread at Taglu. What would the -- and you're not carrying a steel beam --

A Nothing external.

Q That's right. What would the appropriate operating height be for that machine, assuming that weather conditions were fine?

A There's no reason why he couldn't fly above 2,000 feet.

Q Well, why do you say their normal operating altitude is below 2,000 feet?

A Well, what we're thinking of here is generally helicopters are using -- are generally used -- correct me if I'm wrong, but on short-range hops.

MR. HOLLINGWORTH:
Small --

A Short distance hops.

Q So you're speaking say -- a fish biologist might want to check a number of streams and he'll use a helicopter and go to one stream and then go up and go two miles to the next stream and so forth.

M. A. Heacock
Cross-Exam by Hollingworth

1 That sort of operation, you're thinking of?

2 A This is correct.

3 Q Yes.

4 A This is where they excel,
5 this type of an operation.

6 Q But if you did choose
7 to use them on the type of flight the Commissioner
8 just mentioned, there's no reason they couldn't fly
9 above 2,000 feet?

10 A That's correct.

11 MR. HOLLINGWORTH: O.K. Those
12 are all the questions I have, thank you.

13 THE COMMISSIONER: Mr. Heacock,
14 you say the effect of restricting aircraft -- this is
15 on page three and I'm paraphrasing it, if you restrict
16 aircraft to flying above 2,000 feet, you say that air-
17 craft operating under VFR wouldn't be able to fly.
18 I don't quite follow that. Is that because they are
19 not supposed to fly above 2,000 feet?

20 A No, they generally fly
21 with reference to ground. The Arctic coast, I would
22 expect they're going to lose -- if they're going to
23 fly normal VFR we'll say they have a thousand feet
24 of altitude, I would expect they're going to lose
25 at least one day in five flying, and if they had to wait
26 for 2,000 altitude, then their time on the ground is
27 going to go up, waiting for the cloud to go to raise
28 to 2,000 feet. Now, provided they're outside controlled
29 airspace, they only have to remain clear of cloud. But
30 if they were flying along any airways or in the control area

M. A. Heacock

Cross-Exam by Hollingworth

1 at 60 nautical miles around Inuvik, they would have to
2 be -- there would have to be another 500 feet which would
3 make a requirement of a cloud base of 2,500 feet before
4 an airplane could fly VFR; if there was a 2,000 foot
5 restriction on their operation.

6 Q Well, you say such aircraft,
7 while in controlled airspace must remain 500 feet below
8 cloud and rely on visual ground contact for navigation.
9 Maybe I just missed something that you said, but is there
10 a minimum distance they must be from the ground in
11 order to establish and maintain visual ground contact
12 for navigation?

13 A No. They must be clear
14 of cloud. They have to be 500 feet from cloud.

15 Q Well, what do you mean,
16 500 feet above it or below it?

17 A Below it. Above, you see,
18 they wouldn't be able to see the ground.

19 Q Well, it's
20 getting late.

21 A If there was a chalk
22 board here I could --

23 Q No, I understand the
24 last point you made. Well then, if they have to
25 remain 500 feet below cloud, then what is the safe -- in
26 other words if the cloud is at 1,000 feet, can they
27 still fly?

28 A Correct, they can, yes.

29 Q Well, is there a minimum
30 distance that they -- minimum ceiling, whatever you

M. A. Heacock
Cross-Exam by Hollingworth

1 call it before they are allowed to fly.

2 A Before they're not
3 allowed to fly?

4 Q Before they're allowed
5 to? If the clouds are at 500 feet, well they can't
6 fly 500 feet below it, so they can't fly presumably.

7 A Yes, you're right, in
8 controlled airspace.

9 Q Right. So what does
10 the ceiling have to be? How high does the cloud have
11 to be before you allow them to fly?

12 A A thousand feet.

13 Q I see. Well, I guess --

14 A 500 feet from ground
15 and 500 from cloud. Now, once you get outside controlled
16 airspace, it's just a case of remaining clear of cloud.

17 Q So they could fly --

18 A They can steamboat yes.

19 Q I see. You're saying
20 that if this Inquiry were to recommend^{that} say on the north
21 coast in summer they should not fly below 2,000 feet,
22 that given the present state of the regulations, we
23 would have to rely upon their cooperation to see that
24 that didn't happen?

25 A Yes, that's correct.

26 Q O.K. Well, I think I
27 understand now. Sorry to take so long over something
28 that I'm sure is very simple.

29 A Not at all.

30 MR. GOUDGE: Thank you Mr.

M. A. Heacock
Cross-Exam by Hollingworth

1 Heacock, that I think, concludes --

2 THE COMMISSIONER: Yes, thank
3 you sir. Thank you very much. Sorry we didn't get
4 to you earlier.

5 A Thank you.

6 (WITNESS ASIDE)

7 MR. GOUDGE: I think next,
8 Mr. Commissioner, we would have Mr. Bayly's evidence
9 that we spoke about at the beginning of the week.
10 Mr. Nicol's evidence.

11 MR. BAYLY: Mr. Commissioner,
12 I can call Mr. Nicol now or we could take our coffee
13 break and he could set up his slides on his projector
14 whichever you prefer.

15 THE COMMISSIONER: All right.
16 Let's take our coffee break.

17 (PROCEEDINGS ADJOURNED)
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C.W. Nicol
In Chief

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

MR. BAYLY: Mr. Commissioner,
if I could begin.

C.W. NICOL, sworn:

DIRECT EXAMINATION BY MR. BAYLY:

Q Mr. Nicol, I've just
filed your curriculum vitae, and if I could go through
it with you, sir, not in full detail but at least some
of the items, I understand that you prepared this at
my request.

A That's correct.

Q The items of significance
to your evidence ^{today} include work in April to September
1958 when you were assistant to Dr. P.M. Driver in his
field studies of diving ducks in the Ungava Bay. Is
that correct?

A That's correct.

Q And in 1959 you spent
the month of April to September again as an assistant
to Dr. Driver in studies on eider ducks in the
Belcher Islands in the Northwest Territories.

A That's correct.

Q And in 1960, 1961, April
to 1962 October, you were a wintering member of the
Arctic Institute of North America expedition on Devon
Island, and that your duties were principally meteorolo-
gical but also included support for summer field parties
of various disciplines.

A That's correct.

C.W. Nicol
In Chief

1 Q And that from June, 1963
2 an
3 to September 1963, you were assistant to Dr. L. Johnson
4 of the Fisheries Research Board of Canada, and his
5 biological and limnological studies of Great Bear Lake.

6 A Yes.

7 Q And that from January
8 1965 to October 1967 you were employed by the Fisheries
9 Research Board of Canada at the Arctic Biological
10 Station as a marine mammal technician, and that you
11 spent approximately six to seven months of each year
12 in the field, mostly in the Arctic, and this included
13 two summers on a seal survey on Baffin Island.

14 A Yes.

15 Q And that you also spent
16 six weeks aboard a Japanese whaler working out of
17 Newfoundland.

18 A Yes.

19 Q And that in September of
20 1971 you took employment with the Fisheries Research
21 Board of Canada which lasted till January 1974, as a
22 technician at the Freshwater Institute in Winnipeg.

23 A Yes.

24 Q And from September, 1971
25 to September, 1972, you were in charge of logistics
26 and technical support for the Fisheries Research Board
27 Pipeline Impact Studies under Dr. Brunskill and Dr.
28 Snow.

29 A Yes.

30 Q And that you spent seven
months in the field, including two winter trips in the

C.W. Nicol
In Chief

1 Mackenzie Delta and extended spring and summer trips
2 to the delta and Old Crow areas.

3 A Yes.

4 Q And that from late
5 September, 1973 to January 1974 you assisted Dr. Healey
6 of the Fisheries Research Board on studies of population
7 dynamics of fish just north of Yellowknife.

8 A Yes.

9 Q And that from January
10 1974 to June of 1975 you were employed by the Environ-
11 mental Protection Service, Pacific Region, as environ-
12 mental emergencies technician.

13 A That's correct.

14 Q And that work, I under-
15 stand, involved work on oil spills in that area.

16 A Almost entirely on oil
17 spills.

18 Q Right.

19 And it was during this
20 that you took a trip to the Inland Sea of Japan in
21 January, 1975, under the E.P.S. authority.

22 A That is correct.

23 Q And that from June of
24 1975 to February 1976 you were seconded to the External
25 Affairs Department to become the assistant manager of
26 the Canadian Pavilion at the International Ocean Expo
27 in Okanawa, Japan.

28 A Yes.

29 Q And that your duties
30 included all scientific liaison with Japanese and other

C.W. Nicol
In Chief

1 nationals experts, particularly in the field of
2 marine pollution.

3 A That is correct, sir.

4 Q And I take it that this
5 position is an unusual one for a person who would
6 otherwise be known as a technician to be in.

7 A I'm not aware of techni-
8 cians being seconded by the Department of External
9 Affairs, but I guess I was seconded because of my
10 fluency in Japanese and that I have worked in the
11 three oceans of Canada.

12 Q And it was during this
13 period that you were able to follow up your studies of
14 the Inland Sea.

15 A Yes.

16 Q And that you have now
17 returned to the Environment Protection Service in
18 Vancouver, and can you tell us what your position is
19 with them?

20 A I'm the environmental
21 emergencies technician in charge of the operations
22 room; the Operations Centre of E.P.S. responds to
23 environmental emergencies such as oil spills.

24 Q And you are responsible
25 for the publications which are listed in your
26 curriculum vitae.

27 A Yes.

28 Q Could we turn to your
29 evidence now, Mr. Nicol, and present that to the
30 Inquiry, please?

C.W. Nicol
In Chief

1 A During the last week of
2 December, 1974, the Canadian Press carried small
3 articles about an oil spill of dramatic proportions
4 into the Inland Sea of Japan. The Inland Sea, or
5 Seto Naikai, is a body of water hemmed by the main
6 islands of Honshu, Shikoku, and Kyushu. I have a
7 map on the evidence on page 3, by the way. It opens
8 into the Phillipine Sea through the Bungo Straits and
9 Kii Straits, and into the Japan Sea through the
10 narrower Kanmon Straits.

11 The coastline is extremely
12 rugged and mountainous, forested with pine and bamboo
13 and with groves of the finest oranges. The Inland Sea
14 is dotted with hundreds of rocky islands, the greater
15 part being a National Park.

16 There are similarities
17 between the Inland Sea of Japan and the Georgia Strait,
18 Gulf Islands and Puget Sound areas of Canada and the
19 United States, despite the difference in latitude (the
20 Inland Sea being about 15 degrees further south). Both
21 have Pacific waters and Pacific fauna and flora. Both
22 have rugged coastlines and scenic islands. Both have
23 fast currents and tidal rips. Both are subject to
24 storms, have similar mixing patterns, and both are
25 rich in fisheries.

26 Because of these similarities,
27 the Environmental Protection Service, Vancouver, felt
28 a keen sympathy and interest in the Mizushima spill.
29 On December 30, 1974, I was asked to find out what
30 cleanup measures were being taken, and how long the

C.W. Nicol
In Chief

1 counter measures were expected to take. Prior to that
2 time I had spent 4½ years in Japan and had studied for
3 a year in a Japanese Fisheries College. In late
4 December of 1974, I found it impossible to obtain
5 accurate information through Japanese sources in Canada,
6 mainly because it was a holiday season in Japan and
7 almost all offices were closed down. I therefore
8 phoned Japan, and was able to talk to officials of the
9 Mitsubishi Oil Company, who were working through the
10 holiday season. Having explained why Canada was interested,
11 the Mitsubishi men proved to be very friendly, co-
12 operative and precise. On the basis of information
13 gathered by telephone, the Environmental Protection
14 Service decided to send me to observe the environmental
15 effects of the Mizushima spill, and the techniques
16 and systems of the cleanup effort. I left Vancouver for
17 Japan on January 5, 1975, and I would later revisit the
18 Inland Sea in November of 1975.

19 Official sanction and clearance
20 for this trip had to be obtained in a great rush, and
21 was hampered by the holiday season but the concept was
22 quickly cleared through Environment , Canada's Ottawa
23 Offices, and through the Department of External Affairs.
24 Oil spills precipitate fast action. It is our under-
25 standing that Canada was the only country to send an
26 international observer on this spill.

27 The Mitsubishi Refinery in
28 Mizushima occupies about 367 acres of landfill edging
29 into the Inland Sea from the Honshu coastline. It is
30 in the prefecture of Okayama, roughly 400 miles from

C.W. Nicol
In Chief

1 Tokyo, and lying between the giant port of Kobe and
2 the shipbuilding yards of Kure.

3 Completed in 1961, the Mizushima
4 Refinery is one of the most modern in Japan. It has a
5 crude oil processing capacity of 270,000 barrels per
6 day and produces fuels (gasoline, diesel, kerosene,
7 fuel oil, etc.) lubricating oils, and aromatics. It
8 is the largest aromatic centre in Japan. At its deep
9 water crude oil pier, ocean tankers can offload at a
10 rate of 50,000 barrels an hour through a 77 centimeter
11 pipeline into one of the largest crude tanks in the
12 world, which has a capacity of 735,000 barrels. In total
13 the refinery has 17 crude oil tanks, with a total
14 capacity of 10,377,000 barrels.

15 About 65% of the refinery's
16 oil products are shipped by coastal tankers and barges.
17 30% of the products are conducted by pipelines directly
18 to Mitsubishi Chemical Company, Mitsubishi Gas
19 Chemical Company, Kawasaki Iron & Steel Company,
20 Chugoku Electric Power Company, and other industries
21 in the area. The remaining products are shipped by
22 tank cars and trucks.

23 The management of the
24 refinery have been very sensitive in the past to
25 public opinion and the growing insistence in Japan for
26 anti-pollution measures. Mr. Ogawa, chief of the
27 Water Pollution Control Board, a Japanese Government
28 agency, based in Tokyo, told me most emphatically that
29 government and industry had been working towards
30 cleaning up pollution problems in the Inland Sea for 20

C.W. Nicol
In Chief

1 years, and that it had recently been possible to fish
2 for marketable prawns close to the refinery. Refinery
3 staff conducted regular training sessions in fire-
4 fighting, laying of oil booms, etc. However, nobody
5 was really prepared for the accident occurring to
6 tank No. 270.

7 Tank No. 270 was one of the six
8 tanks in the direct desulfurizing plant. It was a large
9 tank, 52 metres in diameter, and 30 metres from its
10 bottom to the high point of the domed roof, and the side
11 walls were 23 metres and 67 centimeters high. The
12 capacity of this tank and of each of the other tanks
13 in the direct desulfurizing plant was 50,000 kilolitres
14 (11 million Imperial gallons).

15 The exact cause or causes
16 of the collapse of the bottom of tank 270 are not
17 available, and are still subject to intensive governm ent
18 investigation. However, the result was an 8 metre long
19 split between the side walls and the bottom of the
20 tank. When first noticed on the night of December
21 18, 1974, it was only a minor leak and the operators
22 opened the connecting valve between tank 270 and 271,
23 thinking to level the head of oil between the two
24 tanks, 271 being less full than 270. Apparently this
25 is standard operating procedure. Soon after this
26 the bottom gave way. Oil came out of the split with
27 tremendous force, spraying as far as 100 metres.

28 The escaping oil was at
29 temperatures between 80 and 90 degrees Centigrade, which
30 made it virtually impossible for men to stop the flood.

C.W. Nicol
In Chief

1 It was some time before men could get to the valves
2 connecting tank 270 and 271 to shut them off. By this
3 time most of the oil was gone, and the huge tank buckled
4 and split like an old paper bag.

C. W. Nicol
In Chief

1 Figures given out by the
2 refinery state that the amount of oil lost from tanks
3 270 and 271 was 42,888 kilolitres or 9,434,309 gallons
4 Imperial. According to the official Japanese government
5 report which is called the "General Investigation
6 into the Environmental Influence of the Mizushima Oil
7 Spill of 1974", only 7,500 to 9,500 kiloliters; that's
8 1,649,816 to 2,089,767 imperial gallon was presumed to
9 have escaped from the land into the sea. It must be
10 stated however that these figures were held in doubt
11 by the Japanese press.

12 I also find it strange that
13 this relatively small amount would cause such a vast
14 pollution.

15 The tank area was enclosed by
16 a somewhat fragile concrete retaining wall but when the
17 oil rushed out, it displaced the concrete and steel base
18 of the tank's stairway and this base, weighing 34 tons
19 smashed through the retaining wall. The stairway was
20 of a vertical type.

21 The escaped oil flowed along
22 refinery roads for a few hundred yards and entered a
23 canal which led to an oil separator. The oil flowed over
24 the separator and into the artificial harbour of the
25 Mizushima industrial area. The volume and temperature
26 of the escaping oil made it difficult, if not impossible
27 to contain on land or in the canal. At least this is
28 what refinery officials claimed on site in January 1975.
29 Once into the harbour, strong winds, waves and darkness
30 made efforts at containment futile. Booms were placed

C. W. Nicol
In Chief

1 and the Maritime Safety Agency contacted. I should
2 say that the Maritime Safety Agency is the equivalent
3 of our Coast Guard.

4 Nobody was really prepared for
5 this accident and when it happened, the most immediate
6 and pressing fear was that of fire.

7 The Maritime Safety Agency
8 mobilized 41 patrol vessels and tried to emulsify the
9 oil with dispersants. In retrospect, it's easy to
10 understand why this effort would fail.

11 Firstly, the sheer volume of
12 oil to be dispersed would mean a very large stockpile
13 of chemical dispersants, plus the ability to spray and
14 mix this amount in a short period of time.

15 Secondly, the temperature of
16 the sea was low enough to make the heavy bunker C
17 tacky and difficult to emulsify.

18 Thirdly, the oil was moving.

19 The head of the number one
20 Shimotsui Fishery Cooperative, Mr. Katsumi Koyama, is
21 reported to have telephoned the Maritime Safety Agency
22 at 0600 hours on the morning of December the 19th,
23 when most of the oil was still inside the port of Miz-
24 ushima. He offered help to the office, but help was
25 refused by the Agency which claimed that they could
26 better handle it themselves.

27 Seven representatives of the
28 Fishery Co-operative visited the agency in the afternoon
29 of December the 19th and again offered help, but again,
30 were turned down. Finally, after consultation with the

C. W. Nicol
In Chief

1 prefectural governments, help was requested. But on the
2 morning of December the 20th, 75 fishing boats set sail
3 to join the cleanup effort but by this time, the
4 oil slicks had escaped far into the Inland Sea, carried
5 by strong winds -- strong northwesterly winds and by
6 the swift tidal currents.

7 In my evidence, I have some
8 charts of the spreading of the oil.

9 These are notes on the Inland
10 Sea. The Inland Sea or Seto Maikai is a body of water
11 hemmed by the main islands of Honshu, Shikoku and Kyushu
12 opening into the Phillipine Sea through the Bungo Straits
13 and Kii Straits, and into the Japan Sea through the
14 narrower Kanmon Straits.

15 The sea area is roughly
16 7,000 square miles with extremely rugged and mountainous
17 coastline. The Inland Sea is dotted with islands and
18 these are extremely beautiful and mostly rocky; the
19 greater number being a marine national park. Despite
20 the tremendous and varying currents, there is a central
21 area of rather low flushing rates in the approximate
22 middle of the Inland Sea, where the waters coming
23 in from the Bungo and Kanmon Straits mix with the
24 waters coming in through the Kii Straits. The currents
25 and mixing of waters have made the area extremely rich
26 in fisheries. Fish culture has developed to a level
27 of high intensity as has the culture of prawns, oysters,
28 and two main types of edible seaweed which form a
29 major part of the Japanese diet.

30 Subject to dangerous currents

C. W. Nicol
In Chief

1 and sudden winds, the area of the Inland Sea produced a
2 population relying on sea foods with very tough, inde-
3 pendent fisherman who generation after generation, have
4 lived in close harmony with the sea.

5 The area has its own distinct
6 cultural flavor with its own dances, folk songs, fishing
7 methods and customs. In short, fishing is not simply
8 a commercial enterprise but a way of life. In the
9 early part of this century, when Japan began to be a
10 great naval power, the Inland^{Sea} also developed as a
11 center for other marine activities, being an ideal anchor-
12 age for large fleets of vessels.

13 Currently, eight large oil
14 tankers and about 1,800 freighters, barges and
15 ferries ply the inland passages each day. The con-
16 centration of shipping and industry in the area has
17 brought with the inevitable ecological threats of
18 pollution and landfill.

19 In the past twenty years, and
20 more particularly in the last five years, government
21 and industry have been responding to the mounting
22 pressure of public opinion and cooperating to clean up
23 the Inland Sea.

24 From local reports, it would
25 seem that the waters and beaches of the area had been
26 at their cleanest for a long, long time and that
27 Japanese people had begun to see glimmerings of hope
28 for its ecological survival.

29 During the months of December
30 and January, the prevailing winds are generally north

C. W. Nicol
In Chief

1 to northwest, sometimes west and surface temperatures
2 of the sea vary from three to ten degrees centigrade,
3 depending on the weather and the degree of surface
4 mixing. It might be noted here that the point of
5 fluidity of the spilled oil was 12.5°C. The significance
6 of that, is of course, that the sea was cold enough
7 to make the oil extremely viscous.

8 At this time of the year,
9 the population of water birds seems rather sparse,
10 comprised mostly of Black headed and Slaty backed gulls
11 and rather few ducks.

12 These notes are on the movement
13 of the oil. Northwesterly and westerly winds carry
14 the oil along the southern coast of Honshu, severely
15 polluting the beaches and shore installations of Okayama
16 and Hyogo prefectures. Winds during those first days
17 of December 18th to 25 reached the 20 meter per second
18 mark or 45 miles an hour, and the oil spread out in
19 long, broad striations across the Inland Sea to the
20 northern coast of Shikoku, touching the eastern beaches
21 of Ehime prefecture and severely polluting the shores of
22 Kagawa prefecture and finally, the beaches of Tokushima
23 prefecture.

24 Dramatic pictures appeared in
25 the international press of oil being swirled around in
26 the famous whirlpool of Naruto between the coasts of
27 Tokushima and the big island of Awaji in the mouth of
28 the Kii Straits. By January the 7th, 1975, an un-
29 specified amount referred to as "a lot" by some
30 authorities, had gone out into the open ocean.

C. W. Nicol
In Chief

1 In the first and second weeks
2 of January, oil was pushed into the harbours and bays
3 of northern Shikoku, Kagawa and Tokushima prefectures
4 and accumulated in depths of ten to 25 centimeters.

5 The islands between the
6 prefectures of Okayama and Hyogo on the main island of
7 Honshu and the prefectures of Kagawa and Tokushima
8 were all seriously polluted as were the southern beaches
9 and shores of Awaji Island. In all, 469 kilometers
10 of coastline were polluted by the Mizushima oil.

11 The general appearance of the
12 oil on the water was of striations, up to three kilometers
13 long with heavy cores of thick oil and much wider and
14 thinner edges. However, the nature of the oil was soon
15 changed by the low temperatures and by the physical
16 action of waves and currents. The bunker C that came
17 from the refinery was blackish in color while the muck
18 that was moving on the sea on the shores, bays and
19 harbors and channels of Kagawa and Tokushima had, by
20 January the 10th, become a thick, reddish-brown sludge
21 referred to in oil spill literature as "chocolate mousse".
22 The Japanese fishermen have a far more prosaic and
23 accurate, if vulgar, description of it and it doesn't
24 taste anything like chocolate mousse.

25 I arrived on scene on January
26 the 8th. On January the 11th, I observed massive
27 amounts of this oil sludge in Tokushima prefecture;
28 50, 60 and 70 miles from the spill site. Some of the
29 sludge was beginning to reach the point of negative
30 buoyancy and was beginning to sink slowly. I saw, along

C. W. Nicol
In Chief

1 several rocky shorelines, big blobs of sludge that
2 would sink, stay underwater for several seconds, then
3 slowly come to the surface again.

4 An unknown amount of sludge
5 eventually sank to the bottom at several places in the
6 Inland Sea. This fact has raised some controversy
7 between the various agencies of the Japanese Government
8 who took part in the investigations which formed a
9 basis of the long report on the environmental influences
10 of the Mizushima spill and various private research
11 groups and fisherman.

12 May I interject here that
13 this long report, I was instrumental in translating and
14 editing it, so I'm very familiar with the contents
15 of it.

16 Fishermen and many private or
17 university researchers claim that considerable amounts
18 of sludge sank to the bottom. The government report and
19 the oil company denies this. In personal discussion
20 with Professor T. Okaichi of Kagawa University, who
21 was one of the members of the General Examining Committee
22 of the official government report, I found that he
23 and his assistants were also of the opinion that a
24 lot of the oily sludge^{had} sunk to the bottom, mainly in
25 shallow waters close to shore.

26 There was, therefore controversy
27 within the agencies taking part in the formulation
28 of the government report.
29
30

C.W. Nicol
In Chief

In January of 1975, Mitsubishi Oil Company engineers told me that the sludge or mousse was an 'oil in water' emulsion, approximately 30% oil and 70% water, with a considerable amount of fibres and other debris to bind it all together.

Some beaches and shores were hit by oil two and more times. Each polluted island developed twin 'tails' of slicks on the leeward sides, as wind and waves carried oil off their beaches. Not only were the windward sides of islands polluted, for waves and currents tended to 'wrap' the oil around on the leeward beaches. Oil became trapped in the fixed nets of the mariculturists, and this oil was also being continually released by wave and current action. On January 11, helicopters chartered by the Mitsubishi Oil Company spotted narrow, three kilometre long slicks of oily sludge along the Tokushima coast, apparently being kept about five hundred metres off the shore by currents and by 'echoing' waves. Much of this oil was heading and accumulating into Hude Bay, while other portions were going out to sea.

Tides also carried the oil 600 metres and more up into some rivers. Looking at charts on the walls of various operations centres, one got the impression that the Inland Sea was being attacked by long serpents, as slicks, spotted and photographed from the air, were marked in long streaks of red on the charts. Indeed, the Japanese coined the phrase 'oil attack'.

Many miles of rocky

C.W. Nicol
In Chief

shoreline, jetties and beaches were covered with the oil that rose and fell with tides and adhered in three or four foot bands.

On beaches, the oil penetrated thirty and more centimetres into the sand. The storms that persisted during the first weeks of clean-up operations deposited sand over one layer of oil, after which more oil was carried in, to be again covered by more sand. Core samples from beaches in Kagawa and Okayama prefectures looked like a layer cake.

In early January, in the whirlpools of Naruto, some oil was recorded as going into emulsion in the water at a concentration of 0.6 parts per million. Other samples in Kagawa and Tokushima indicated concentrations of 0.95 parts per million. The Japanese press reported that emulsified oil was found to a depth of five metres. It is to be noted that the Japanese government's Fisheries Agency considers that a concentration of 0.01 parts per million of oil in water will taint oysters and fish if exposed for 24 hours, and that concentrations of 0.2 parts per million in mud for one hour will taint clams, etc. Therefore, due to the preliminary findings of oil in the water and due to the very extensive surface and shoreline pollution, all fishing activities and fish marketing in the affected areas were closed by the Japanese government. This involved about half the total area of the Inland Sea. A comprehensive picture of the behaviour and movement of the oil would fill many more pages than the nature of this discussion warrants.

C.W. Nicol
In Chief

I'm following with notes
on "Environmental Effects."

The Mizushima oil spill
is certainly the most intensively studied and controver-
sial spill since the accident of the "Torrey Canyon" in
the English Channel. In 1975, the Japanese government
under the leadership of their Environmental Agency,
put together a wordy, 162 page report entitled
"Investigations Into the Environmental Influences of the
Mizushima Oil Spill."

This report is the result
of studies by several agencies, the total cost being
some Canadian dollars 407,000 and in Yen, that's 116
million, 264 Yen. It indicates that the water quality
in the INland Sea returned to its previous levels within
months of the incident, and a superficial reading of the
report would tend to minimize the effects of the spill in
the water column. However, this report has released
a storm of protest from the press, from Fishermen's
Cooperatives, and from the university research workers.

Professor Okaichi, of
Kagawa University, one of the members of the investigative
board, claimed that the government's investigation was
unscientific. He said that the sampling was done on a
grid system, which ignored or missed actual locations of
heavy pollution. Fishermen said exactly the same thing,
this is to me, although their position was a very delicate
one, for the simple reason that if the public believed
that the fish taken from the area was contaminated,
the fish would not be sold. Professor Okaichi and others

C.W. Nicol
In Chief

1 pointed to poor liaison between investigating departments.

2 I personally talked with
3 more than a hundred individuals in the Inland Sea, and
4 it would seem to me that the ecosystem or life regimes
5 of the area are changing, and that the oil spill may
6 have accelerated these changes. However, it would be
7 impossible to state this as fact. Certain fish, usually
8 expensive ones like sea bream, seem to be decreasing
9 in areas where fishing has not been excessive but where
10 the oil pollution had been serious. Certain coarse fish
11 plankton eaters of the anchovy family, have increased.
12 (These fish are used only as fertilizer.) In dispersion
13 or in -- sorry, the oil in dispersion or emulsion seems
14 to have seriously reduced the number of sea urchins.
15 This is a food item in Japan, by the way. The populations
16 of a swimming crab with an impossible Latin name,
17 Tritodynamia Horvathii, has exploded, in such numbers
18 as to clog the engine intakes of ferry boats.

19 Professor Okaichi believes
20 that oil spills may very well be the cause of increased
21 incidence of 'red tide'. He says that during the first
22 period of a spill, planktonic diatoms and flagellates
23 dropped dramatically in numbers in the oil-affected
24 surface waters. Water which would be expected to have
25 1000 cells per cubic centimetre had only one or two
26 cells per cubic centimetre. Later, when oil levels in the
27 water dropped to 0.1 parts per million and less, diatoms
28 and dinoflagellates bloomed, in places causing the 'red
29 tide' which kills other marine life.

30 MR. GOUDGE: Mr. Nicol, before

C.W. Nicol
In Chief

1 you go on, I wonder, sir, if we might break for half an
2 hour.

3 THE COMMISSIONER: There's a
4 television program on that we have all been urged to
5 watch, so if that's all right, we can adjourn and perhaps
6 we can come back at 4:30.

7 MR. GOUDGE: Yes, sir.

8 THE COMMISSIONER: And carry
9 on with your evidence, sir, and I understand you, Mr.
10 Veale, want to cross-examine this afternoon so you can
11 leave this evening. Well, I think all of that should
12 be possible; if it isn't, we'll forego this treat -- not
13 your cross-examination, but the television.

14 All right if you want to
15 watch it in my suite, you are certainly welcome. I also
16 invite you to the Arctic Gas suite.

17 (PROCEEDINGS ADJOURNED)

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C.W. Nicol
In Chief

1 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

2 MR. BAYLY: Shall we begin
3 again, sir?

4 THE COMMISSIONER: Yes, we'll
5 begin again. I was thinking as I listened to those
6 people on television just now that you people can't
7 cross-examine them.

8 MR. BAYLY: Or we already have.

9 Q Could we start, Mr.
10 Nicol, again at page 14 of your prepared evidence?

11 A Yes. I'm continuing
12 my remarks on the environmental effects of the Mizushima
13 oil spill. The immediate effects of the spill are
14 obvious. The waters of the Inland Sea are used
15 intensively for fishing and for mariculture of various
16 types. The area is particularly renowned for the
17 culture of edible seaweeds of two main types, nori
18 or laver (porphyra), a seaweed that is part of the
19 daily diet of almost every Japanese. It is cultured on
20 nets that are suspended in a flat, horizontal plane
21 just below the surface of the water. The nets are
22 seeded with monospores that are collected on oyster
23 shells, and then are set fairly close into shore in
24 large banks of buoyed nets. Nori has a very delicate
25 flavor, and the flavor greatly affects the market price.

26 Wakame (that's undaria pinna-
27 tifida), a seaweed that is commonly used in Japanese
28 soups and other dishes, and which is also cultured on
29 nets.

30 The edible seaweed industry was

C.W. Nicol
In Chief

1 seriously affected in Okayama and Hyogo prefectures,
2 and in Kagawa and Tokushima prefectures the effect of
3 the spill was catastrophic. The growing season for this
4 type of seaweed culture is October to March. In spring
5 the laver plants die. The spill destroyed one year's
6 crop of seaweed in the affected areas. In Kagawa and
7 Tokushima prefectures, the 1975 crop was less than 10%
8 of what it should have been, and in Kagawa prefecture
9 alone, 110,000 of the 120,000 nori nets were so covered
10 with oil as to render the nets useless. The 1975
11 government report gave the figure of 240,749 sets of
12 nets being destroyed by oil.

13 Marine culture of fish was
14 also seriously affected in the area, especially the
15 coastal fish culture stations of Kagawa and Tokushima.
16 The oil was pushed into bays by wind and current, and
17 the most immediate effect on the fish farms, which are
18 usually net-enclosed compounds open to the sea, was that
19 a thick surface covering of oil prevented the distri-
20 bution of feed. Oil clogged the nets and fractions of
21 it dissolved in the water.

22 The principal types of fish
23 cultured in the area are yellowtail (which is hamachi in
24 Japanese), which are marketed in three year classes,
25 under three different names, the porgy or red snapper
26 (which is madai in Japanese) -- I have the Latin names
27 here but I won't bother to read them -- the black sea
28 bream (kurodai). In Kagawa and Tokushima this
29 industry was severely damaged. Members of the fishing
30 co-operatives reported that more than 30,000 fish had

C.W. Nicol
In Chief

1 been killed. In areas I visited, fishermen reported
2 that the fish were starving in the compounds. The Asahi
3 newspaper, the Mainichi newspaper, and several weekly
4 magazines carried pictures of dead and oil-smeared yellow-
5 tail. Fish that were neither starved nor poisoned by
6 the oil spill were nevertheless unmarketable. The main
7 food species affected by the oil were mussels, oysters,
8 short-necked clams, sea bass, black sea bream, red
9 snapper, yellowtail, whelks, octopus, and hiiragi
10 (that's a Japanese fish which I can't find the name for
11 in English.)
12 The national and local news carried many reports of con-
13 centrations of oil in the water, as much as 0.95 parts
14 per million. However, the conditions of waves,
15 currents and mixing seemed to be so variable that the
16 picture is quite confusing in the first weeks of the
17 spill. Certainly the overall survey data records lower
18 levels of oil in the water column.

19 Whatever research results may
20 prove, disprove or question, the Japanese Government
21 closed all marine fish markets in the affected area,
22 which was almost half the Inland Sea, and no fishing
23 vessels harvested. Fish bait sellers were closed down
24 and no products of mariculture were sold. Despite
25 the rising Japanese per capita consumption of land-
26 animal products, it is still a basic truth that marine
27 products form a very important part of the Japanese
28 diet, especially of the people outside the mammoth
29 cities like Tokyo or Osaka. In the polluted area of
30 the Inland Sea, common items of diet like the short-
necked clams disappeared from the markets. This

C.W. Nicol
In Chief

1 affected many people, as this food was relatively
2 cheap and used by all strata of the Japanese society.

3 By the end of January, many
4 intertidal areas had been oil-covered for more than
5 three weeks. Oil was deposited on sandy beaches in
6 successive waves, making oil-sand layer-cake. In
7 November, 1975, when I revisited some of these beaches,
8 (this was 11 months after the accident) I found many
9 dead clams in the sand. Local people were still not
10 eating the clams, claiming that when put in water an
11 oil film would appear on the surface of the pot, and
12 that the clams were unpallatable. However, researchers
13 reported verbally to me that small clams were numerous,
14 and suggested that due to the oily taste of the
15 spawning adults, the adults had not been taken, thus
16 leaving more to spawn.

17 In January of 1975 on my first
18 trip to the beaches, I had observed oil penetrating to
19 a depth of 20 centimetres. In November of 1975 in the
20 same location I found no oil at that depth. Later,
21 talking to fishermen digging bait, they assured me that
22 the oil was now 40 centimetres and deeper.
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C. W. Nicol
In Chief

1 Certainly in November, eleven
2 months after the spill, fishermen were digging and
3 catching polychaetes (worms) for bait. They were also
4 digging for a small octopus which lives in the mud and
5 which is used for human food. They claim that the
6 numbers were far fewer than before the spill, but I'm
7 aware of no research evidence to back this up, mainly
8 because no population studies ^{were done} prior to this spill.

9 If I may be forgiven a
10 personal comment, it would seem that despite the en-
11ormous amount of effort and research put into determining
12 the environmental effects of this spill, the picture
13 becomes even less clear and more confusing. Extremists
14 on both sides may take data and extrapolate whatever
15 they wish from it. One said that the oil spill was the
16 beginning of the death of the Inland Sea. Some said
17 that the oil spill had no affect at all. Obviously,
18 neither side is correct. The tragedy is that the
19 risk becomes wider. The fishermen residents, people who
20 have tasted or imagined oil in their seafood and who
21 have noticed but not scientifically recorded changes
22 in their environment have become increasingly distrustful
23 of government and industry.

24 As an impartial observer with
25 no loyalties to either side, I was able to observe this
26 conflict and distrust. I believe that this distrust
27 and conflict could become rife in Canada too.

28 To return to the subject of
29 environmental effects, there were practically no accounts
30 of oiled birds. From the Japanese government's

C. W. Nicol
In Chief

1 Environmental Protection Agency, I heard of only one
2 duck which was found dead with oil in its gut. The
3 cleanup efforts were so intensive that north-bound
4 migratory birds appearing in the Inland Sea in early
5 spring were not affected. The press carried reports
6 of one porpoise dying in the slicks.

7 In November, previously oiled
8 walls had been recolonized by periwinkles. They
9 are little snails. Barnacles were living except on
10 those walls which had been cleaned by high pressure
11 steam or by flame. Regrowth of algae (green algae) was
12 sparse, but evident. Crabs were flourishing in crevices
13 previously badly oiled. However, fish previously
14 caught in shallow waters close to shore, now had to
15 be netted further out.

16 I would say that the massive
17 cleanup effort of the Japanese industry and government
18 was effective in minimizing the long-term effects of
19 the oil, but that these long-term effects cannot be
20 brushed aside or forgotten.

21 I follow with notes on studies
22 of the oil and its effects. On January 27th, 1975, it
23 was announced that the Japanese government would launch
24 a joint ministerial survey in early February to in-
25 vestigate the degree of sea pollution caused by the
26 Mizushima spill. The survey was spearheaded by the
27 environmental agency with the Maritime Safety Agency,
28 the Fisheries Agency, the Ministry of Health and
29 Welfare and the Ministry of Construction participating.

30 The survey covers water and

C. W. Nicol
In Chief

1 bottom analysis, a market inspection of marine products,
2 a long-term investigation to examine the possibility
3 of effects on humans from hydrocarbons taken into the
4 system from oil contaminated marine foods; the degenera-
5 tion or biodegradation of oil by bacteria, etc., and
6 the movement and spreading of oil both on and below
7 the water surface. The studies cost about \$407,000
8 Canadian dollars.

9 The Environmental Protection
10 Service, this is of Canada, saw fit to allow me to
11 have this weighty report translated and I am in the
12 process of editing the English and retyping it.

13 Notes on the cleanup operations.
14 Press reports in Canada and the U.S.A. carried accounts
15 of a "leak" of oil from the Mizushima refinery. This
16 was a poor choice of words. "Gush" or "flood" would be
17 more accurate. Before any criticism of the way the
18 spill was handled can be made, it must be understood
19 that the oil came out at great force and it was hot
20 enough to scald.

21 THE COMMISSIONER: Mr. Nicol
22 excuse me, just -- what you gave us -- I think earlier
23 on, the volume of oil that was, in fact, spilled is --
24 sorry, is it possible to draw a comparison between that
25 volume of oil spilled and the volume that would be
26 carried in a supertanker that, for instance, how would
27 it compare with the volume of oil spilled when the
28 "Torrey Canyon"--

29 A I believe the "Torrey
30 Canyon" spilled one and one-half times that amount sir,

C. W. Nicol
In Chief

1 but I'm not completely sure of those figures. The
2 supertanker "Metula" but I may be wrong again, spilled
3 more than the amount lost from the Mizushima tank.

4 Q That last spill was in the --

5 A In Chile.

6 Q Singapore?

7 A No, off the coast of
8 Chile, sir.

9 Q Oh, I see.

10 A The Singapore one spilled
11 about one-tenth of the Mizushima accident. I'll continue.

12 This made containment extremely
13 difficult. The oil got into the canal leading to a
14 separator system and had it been a much smaller amount,
15 it would have been contained there. However, the oil
16 overflowed the separator and entered Mizushima Harbor.
17 Booms were placed, but winds were strong, the water
18 surface choppy, with tidal currents of 1.5 knots experien-
19 ced in some places. It was also dark.

20 I sincerely believe that
21 no criticism can be fairly aimed at the initial efforts
22 of control. The foremost concern in the minds of the
23 refinery crew was that of fire. Hot oil had surrounded
24 several of the tanks and had covered a total land area
25 in the refinery of 148,300 square meters so that the
26 danger of fire and explosion was very real. As it was,
27 the 34 ton base of the vertical ladder by the side of
28 tank number 270 was moved by the force of the escaping
29 oil a distance of several yards so that it smashed
30 through the dyke. Tank 270 itself was buckled and ripped.

C.W. Nicol
In Chief

1 An item worthy of note is that
2 during these operations, both the initial period and
3 the months following, nobody was killed or injured by
4 the accident or the cleanup operations, and this, I feel,
5 is an exceptional mark of the competence of the Japanese
6 on-scene commanders, both from industry and from the
7 various governmental agencies.

8 The principal types of boom
9 used in oil containment were a Bridgestone ocean type
10 boom (designated as Type B by the Enforcement Regulat-
11 ions of the Marine Pollution Law), and a Yasunaga har-
12 bor type boom (designated as Type A by the same
13 regulations). The ocean boom has a 40-centimetre skirt and
14 a float supported emergent part 30 centimetres high.
15 Japanese Ministry of Transport ordinances regulate the
16 length of the boom sections, depth of the skirt,
17 height above sea surface, tensile strength, and the
18 type of fastenings of booms used in port areas, and by
19 ships in Japanese waters.

20 While I was travelling on
21 the coast of Shikoku I saw a few non-regulation
22 booms which were mainly owned by fishermen's co-opera-
23 tives. The Mitsubishi Oil Company and of course the
24 Maritime Safety Agency used regulation type booms.
25 In all, 25,870 meters of boom were actually used.

26 The booming of Mizushima harbor
27 was not effective. The accident occurred at night on
28 December 18, 1974, and by 0900 hours on December 19th
29 the oil was well outside the harbor and into the Inland
30 Sea.

C.W. Nicol
In Chief

1 After the initial failure of
2 booming operations, the Maritime Safety Agency attempted
3 to emulsify the oil by spraying chemicals from 41 patrol
4 vessels. The chemicals were inducted into high pressure
5 hoses. This was not effective because:

6 (a) the volume and thickness of the oil would require
7 huge amounts of chemicals and enormous mixing powers;
8 (b) the temperature of the water and the wintry condi-
9 tions made the bunker C oil extremely viscous.

10 Fishermen reported to me, I
11 should say, that the dispersed oil was in places coming
12 out of emulsion again.

13 Within a few days of the
14 initiation of cleanup operations, the use of chemical
15 dispersants on oil on the surface of the sea was
16 stopped due to strong protests from fishermen's
17 co-operatives in all four of the badly affected prefectur-
18 es. In certain incidents (as related to me by the
19 fishermen involved) the fishermen actually went out to
20 vessels spraying chemicals and stopped them from doing
21 it.

22 I'll interject here, sir, I
23 didn't put it in the written evidence, they boarded
24 the vessels and threatened to throw the captains in the
25 sea.

26 However, despite this, some
27 1,014,733 litres of ^{chemical} dispersant were used -- that's
28 about 223,216 gallons Imperial.

29 In Japan there is currently
30 a very strong feeling, both in fishing and scientific

C.W. Nicol
In Chief

1 communities, against the use of chemicals to handle
2 oil spills, and this feeling was reflected in numerous
3 newspaper, radio and television reports. Fishermen in the
4 Inland Sea were absolutely adamant in their refusal to
5 accept dispersants, maintaining that the dispersed
6 oil was all the more easily available to ocean plankton
7 and that it was ingested by the plankton and then by
8 fish with the result that fish were tainted. Dispers-
9 ants were very definitely out of favor in the Inland
10 Sea cleanup. Due to the division of command and the
11 large area of operations, it was difficult during the
12 first month or so to get accurate figures on the
13 quantity of equipment used, numbers of boats and trucks,
14 etc, employed, and the numbers of personnel mobilized to
15 cope with the spill. However, during the first month,
16 the Sixth Regional Maritime Safety Board announced that
17 the following resources had been utilized:
18 8,189 workers; 738 vessels; 153 aircraft; 30,000 metres
19 of boom (this boom had been purchased but not all in
20 fact was used, as I said/some 25,000 metres were used).
21 The cost of fuel alone for that month was \$83,333.

22 The Maritime Safety Agency,
23 several refineries and port authorities all had
24 vessels in the Inland Sea, and many fishing boats were
25 also used. During the cleanup operations of the first
26 weeks, oil was trapped in booms and recovered by vari-
27 ous systems: floating pumps, rollers and hand bailers.

28 Absorbent roller recovery systems were used but had
29 a bad reputation with the oil companies and with the
30 Maritime Safety Agency. Canadian style 'slick-lickers'

C.W. Nicol
In Chief

1 were used to good effect, but the capacity of holding
2 tanks and disposal of recovered oil posed problems, as
3 did mechanical failure due to the weight and thickness
4 of the oil slicks in harbors.

5 Absorbants were supplied by
6 the Mitsubishi Petro Chemical Company. The principal
7 type used was a 50 x 50 x 0.5 centimetre sheet absorbent
8 called 'Attack Ace.' This material looked like thick
9 white cloth and seemed effective, but was not reusable.
10 Unfortunately, in many instances it was used wastefully
11 and indiscriminately, and a lot of it got loose in the
12 sea and drifted around, and according to fishermen a lot
13 sank to the bottom.

14 As the oil spread, the
15 Mitsubishi Oil Company (M.O.C.) used dozens of trucks
16 to distribute booms and absorbents for the use of
17 local authorities and fishermen's co-operatives.
18 Equipment and personnel were brought in from all over
19 Japan. M.O.C. pulled every available man from branch
20 offices and laboratories all over the country.

21 M.O.C.'s first operations
22 centre was in the Mizushima Refinery. Normal refinery
23 operations were closed down and remained so for the
24 duration of cleanup and of the investigations. The
25 refinery did not start operating until August of 1975
26 eight months after the accident.

27 Of the Japanese Government
28 departments, the Maritime Safety Agency was certainly
29 the most active and effective. They set up the local
30 operations centres, as well as an operations centre

C.W. Nicol
In Chief

1 in the Ministry of Transport's offices in Tokyo.

2 The Maritime Safety Agency took responsibility for all
3 marine operations, co-ordinating and controlling the
4 movements of the oil recovery fleet and of the oil
5 spotting vessels and aircraft.

6 The Fisheries Agency of the
7 Ministry of Agriculture was also immediately effective.
8 Each prefectural government office in the four prefectures
9 badly hit by oil set up operations centres, and research
10 centres in the Inland Sea began impact studies. A certain
11 amount of cleanup was co-ordinated through the prefectur-
12 al offices and the Fisheries Agency as well as through
13 local Fire and Public Health Departments.

14 I visited the Fisheries Agency's operations
15 centre in Tokyo and was told the agency had the following
16 main objectives in mind:

17 (a) Arrange for compensation for the affected fisher-
18 men as soon as possible so that they would have enough
19 money to live on.

20 (b) Co-ordinate the removal and recovery of oil.

21 (c) Encourage and conduct research into the long-term
22 or side effects of the accident on the marine environ-
23 ment.

24 (d) Encourage and direct the reconstruction of the
25 destroyed fishing grounds and mariculture areas.

26 As of January 6, 1975, the
27 Fisheries Agency were still analyzing damage reports
28 to fisheries and connected industries, and had to that
29 date come to a figure of \$31,333,333 damage. I get
30 these funny 333 because of converting it from yen.

C.W. Nicol
In Chief

1 On January 22, 1975, the
2 Fisheries Agency was reported by the Canadian Press
3 to have given a damage figure of \$53 million. When I was
4 in Kagawa and Tokushima, analysis of damage reports
5 was still being carried out and claims from fishermen,
6 bait sellers, logging companies, etc., were still coming
7 in.

8 In August, through the help of
9 the Canadian Embassy in Tokyo, we got hold of the follow-
10 ing figures: To August of 1975 the Mitsubishi Oil
11 Company advised that they had paid the following sums
12 to this date:

13 (1) Damages to fishermen, fish markets, hotels, storage
14 houses, etc. 17 billion yen, that's \$57 million.

15 (2) Payment for oil recovery and cleaning works of
16 fisherm en and other people, excluding government and
17 military services, 13 billion yen, or \$43 million.

18 (3) Loss from refinery operation shutdown for eight
19 months was about 17 billion yen, or \$57 million.

20 (4) Cost of fuels, booms, dispersants, etc., used by
21 M.O.C. wasn't yet figured out.

22 Other damage negotiations
23 were still under way at this time, and complicated
24 Court cases were sure to be initiated to settle respon-
25 sibility for the cause of the accident.

26 The Maritime Safety Agency
27 advised that they had requested and received 46.8 million
28 yen from M.O.C. to cover the expenses which they incur-
29 red during cleanup operations, namely overtime of
30 government employees, fuels for ships, booms, dispersants,
etc.

C. W. Nicol
In Chief

1 Their participation was done
2 in the context of the Ocean Contamination Prevention
3 Law. Article 41 of the same, requires the party
4 responsible for an oil spill to pay the expenses of
5 oil recovery and cleaning measures which the director
6 general of the Maritime Safety Agency initiates and
7 pursues at his own discretion.

8 The Kagawa Prefectural
9 Government advised that:

10 1. Mitsubishi paid just over
11 \$15 million yen to Kagawa prefecture to cover overtime
12 of prefectural employees, cost of booms, dispersants,
13 absorbents, fuels, etc.

14 2. Mitsubishi paid 15,679,000
15 yen to local municipalities in Kagawa prefecture to cover
16 overtime of their employees and 111,586,719 yen to cover
17 costs of material and fuels used in the recovery
18 operations.

19 Okayama and Tokyshima
20 prefectures also received money from MOC, but smaller
21 amounts.

22 Neither the fishery agency
23 nor the Ministry of International Trade and Industry
24 requested payment from MOC. The reason being that
25 the Ocean Contamination Prevention Act is under the
26 administration of the Maritime Safety Agency.

27 Therefore, from figures
28 available to date, the cost of compensation, expenses,
29 loss from operational shutdown is approximately 48
30 billion yen or 160 million dollars. These figures are

C. W. Nicol
In Chief

1 not complete.

2 In the official government
3 report, "General Investigation into the Environmental
4 Influences of the Mizushima Oil Spill of 1974", the
5 following figures were quoted:

6	Oil and water collected from the sea...	7,430 kilolitres
7	45 gallon drums filled with oil and	
8	water by shore parties	... 102,885 drums
9	Polluted sand and shingle removed from	
10	beaches	... 5,720 tons
11	Sets of nets destroyed	... 240,749 sets.
12	Number of people taking part in	
13	the cleanup	... 232,150
14	Ships and boats used	... 38,653
15	Aircraft used	... 344
16	Boom used in operations	... 25,870 meters.
17	Dispersants used	... 1,014,733 liters
18	Absorbents used	... 830,116 kgms.

19 The figures are both confusing
20 and staggering, and for me, it is horrifying to think
21 that the contents of one storage tank could cause such
22 damage and expense.

23 The Environmental Protection
24 Agency, Water Pollution Control Board also had an
25 operations centre in Tokyo and were performing a
26 coordinating function. The EPA is a relatively new
27 body incorporating personnel and expertise from several
28 other agencies. Their concern is mainly a long-term
29 abatement of water pollution. They are not a heavily
30 staffed organization and their input into the Mizushima

C. W. Nicol
In Chief

1 spill cleanup did not appear to be particularly dynamic.

2 Towards the second week of
3 January, a ministerial or sub-cabinet National Operations
4 Center was formed in Tokyo together with a parliamentary
5 audit committee. This spill was to see the birth of
6 dozens of committees of various functions and levels.

7 The Mitsubishi Oil Company
8 itself was intensely involved in cleanup and recovery.
9 They coordinated the supply of materials as well the
10 hiring and movement and the organization of cranes,
11 trucks, vacuum trucks, pumps, barges and boats. They
12 chartered aircraft to plot the movement of oil. Their
13 staff worked through the holiday season putting in
14 extremely long hours every day, for which they got no
15 overtime, I should add.

16 When I arrived in Japan on the
17 first study trip which was January the 6th, 1975, opera-
18 tions had already peaked in Okayama and Hyogo pre-
19 fectures and were just passing the peak at Kagawa
20 prefecture with work and activity building to a peak
21 by the second week in January at Tokushima. MOC
22 that means the Mitsubishi Oil Company was shifting
23 men and equipment as needed and working out of three
24 main operation centers.

25 I spent five days working out
26 of the Kagawa prefecture operation center in Takamatsu
27 city. My decision to center there was based on the
28 following points:

29 (a) All types and phases of
30 recovery and cleanup were being coordinated there.

C. W. Nicol
In Chief

1 (b) This operations center
2 had at that time the greatest concentration of skilled
3 and technical MOC personnel.

4 (c) Having passed the peak
5 of operations, things at the center were well organized
6 and less frantic than they had been one or two weeks
7 previously and I felt my presence and questions would
8 no longer seriously interfere with the work.

9 At the Takamatsu city
10 operations center, which was situated in a modern
11 hotel and practically occupied the entire hotel, some
12 69 people were working from early in the morning until
13 late at night every day. The Plaza Hotel at Takamatsu
14 was very conveniently situated close to the harbor and
15 ferry terminals. Almost every room in the hotel was
16 rented by MOC and they used two large meeting rooms
17 for their operations.

18 One was principally a com-
19 munications and administration room, complete with a
20 xerox, a telecopier, half a dozen phone lines, tables,
21 blackboards and charts. The second large room was on
22 the ground floor. It was a dispatch headquarters for
23 the men going out to supervise operations in the field.
24 In the second room, you could wear dirty boots, while
25 in the first, you couldn't without making the hotel
26 staff very cross. I say that from personal experience.

27 It seemed to be a very well-
28 functioning system.

29 Meals, taxis, etc., were
30 arranged by MOC and taxis were paid for by signed chits

C. W. Nicol
In Chief

1 which all taxi companies honored without question. They
2 were marked as to their origin for easier accounting.

3 While working in the center
4 at Takamatsu, I was privileged to get a feeling for
5 the teamwork at which the Japanese are particularly
6 good.

7 On January the 8th, in Kagawa
8 prefecture alone, the following equipment was being
9 used, that's on that day; this equipment was in use:

10 8,000 meters of boom
11 15,000 empty 45 gallon drums
12 19 Marine Safety Agency patrol vessels
13 56 oil recovery ships
14 6 barges
15 1 crane ship
16 1 oil incinerating ship

17 Varying numbers (ten to 30)
18 trucks and vacuum trucks were in use. Apart from the
19 booms supplied by MOC, the fishermen's cooperatives
20 had their own harbor booms.

21 By this time having been carried
22 across the Inland Sea, the oil was a heavy sludge. The
23 workers found that slick-lickers, floating pumps, and
24 other specific oil recovery gear was not as effective
25 as removal of the oil by long-handled bailers. It was
26 found that one person could fill a 45 gallon drum in
27 20 minutes this way. At every harbor and fishing
28 port, fishermen and their families bailed oil into
29 drums that were carried away by trucks or barges.

30 It sounds primitive, but it

C. W. Nicol
In Chief

1 was effective with minimal equipment costs and with the
2 kind of manpower available in Japan, it was an excellent
3 solution to the problem.

4 An example of the amount of
5 oil removed by a local fishing family is that of the
6 tiny harbor of Shimo Kasai where 120 drums a day were
7 taken for one week. That's 840 drums by hand bailing.
8 May I interject that Shimo Kasai is a little bit smaller
9 than Tuktoyaktuk.

10 Most of this oil with very
11 little -- Sorry -- Most of this was oil with very
12 little water. The trucks and barges could not keep
13 up with the amount of oil being taken this way.
14 In Shimo Kasai harbor, the oil was so thick on the water
15 that the outboard engines were being stopped by it. There
16 were harbors like this in all four of the badly affected
17 prefectures.

18 Vacuum pumps were also found
19 to be effective, either ship-based pumps or ordinary
20 vacuum trucks, of which there are many in Japan used
21 in place of their woefully inadequate sewage system.

22 In many cases, it was possible
23 to drive the truck to the edge of a dock or a jetty
24 wall and to hold the nozzle of the pump in the oil by
25 hand and suck it up. At sea, the oil was trapped in
26 booms, concentrated into a small area and then pumped
27 or bailed into tanks and drums. The amount of sludge,
28 oil, water, debris recovered was prodigious.

29 By January 13, 1975, in Kagawa
30 prefecture alone, 13,500,000 gallons of oil and muck

C. W. Nicol
In Chief

1 had been collected, and by no means were operations in
2 that area finished. The recovered oil, etc., was taken
3 to a prefectural site near Banosu refinery in Kagawa.

4 Bulldozers dug pits 1.5 meters
5 deep and laborers lined the pits with plastic sheeting
6 and built a 40 cm. berm around them. The filled drums
7 were emptied into these pits. This was a temporary
8 arrangement. The whole problem of disposal was one
9 which took immense effort. Eventually, the oil and
10 water etc., were taken to the Mizushima refinery to
11 be recycled at great cost. At the Banosu site, I saw
12 an accumulation of 10,000 drums which had been filled
13 in three days.

C.W. Nicol
In Chief

1 There were three main gathering
2 sites set up to handle the recovered oil; one at the
3 refinery at Mizushima, one at Banosu, for Kagawa pre-
4 fecture, and one at Kameura for Tokushima prefecture.
5 At the Tokushima prefectural site, I saw an accumula-
6 tion of 13,500 full drums.

7 These figures are confusing but
8 the important fact to be well remembered in preparing
9 for an oil spill is that if you spill one gallon of
10 crude oil or bunker C, you are going to recover at least
11 five gallons of oil/sludge/water/ debris.

12 The two most heavily utilized
13 pieces of equipment in this whole operation were the
14 long-handled bailer and empty 45 gallon drum.

15 Another piece of simple
16 equipment which M.O.C. found to be particularly good for
17 picking up sludge was a two-metre square of steel mesh,
18 the mesh being 5 millimetres and the ends turned up to
19 form a shallow basket. This mesh basket was manipulated
20 by a crane, either land or ship-based. It was dipped
21 under the oil sludge and lifted out. The free water
22 runs out and the sludge is dumped.

23 Men of the Japanese Self-
24 Defence Forces worked in three and sometimes four teams
25 on land operations. A total of 900 officers and men were
26 employed in oil recovery and beach cleanup. They used
27 their own jeeps, trucks and portable radio equipment,
28 and they controlled traffic on the narrow country roads
29 in their particular areas of operation. The energy and
30 efficiency of these military teams was most impressive.

C.W. Nicol
In Chief

1 Beaches were cleaned with
2 heavy and medium heavy equipment where possible, but in
3 most instances the job had to be done by hand. Dirtied
4 sand was removed. Oiled rocks were wiped with 'Attack
5 Ace' absorbent, No peat moss or straw was used. Jetty walls
6 were cleaned with steam, with high pressure hoses, and
7 in places with chemicals or with flame.

8 On January 11th I visited
9 Tokushima prefecture. M.O.C. had set up its operations
10 centre in the Park Hotel, Tokushima City. They had
11 installed a xerox, a telecopier, and several phones.
12 ON that particular day the following equipment was in
13 use in Tokushima: Trucks - 30; vacuum trucks - 10;
14 oil recovery ships - 2; crane ships - 1; Maritime
15 Safety Patrol vessels - 5; smaller fishing vessels - 30;
16 oil booms - 10,000 metres.

17 In Tokushima prefecture, four
18 operations centres were working; the M.O.C. centre in
19 Tokushima City, a Maritime Safety Agency centre at
20 Komatsu Island, a prefectural centre at Fukuchiji, and a
21 city government centre at Naruto City which had been
22 badly hit by oil. M.O.C. had established a huge
23 collecting base and equipment and supplies stockpile.

24 In the second week of January
25 oil was still moving and collecting in bays along the
26 coast of Shikoku, especially in Hude Bay where it was
27 five to ten centimetres thick -- a heavy reddish brown
28 sludge which was being removed by vacuum trucks.

29 Dr. Okaichi of Kagawa Univer-
30 sity was using high-speed chromatography to fingerprint
oils. In July, samples taken from the port of Sakaide in

C.W. Nicol
In Chief

1 be
1 Kagawa proved to/oil from the Mizushima spill.
2 That's seven months after the accident. It had probably
3 melted off rocks or jetty walls.

4 A small but interesting
5 detail of the operations is that all vehicles employed
6 in the cleanup carried placards which enabled them to
7 pass through toll gates freely and which assured them
8 of special police assistance. In crowded Japan this must
9 have saved a lot of time.

10 We come now to my summary.
11 Thanks to the co-operation of the Japanese Government
12 officials both in Tokyo and in the prefectures, and
13 thanks to the co-operation of the Mitsubishi Oil Company,
14 I was able to gather a great deal of information and
15 experience in two short field trips (a total of three
16 weeks.) I was also lucky to get a copy of the official
17 Japanese report which has now been translated. Japanese
18 fishermen, scientists and press were also especially
19 helpful. The Mizushima spill has already been the
20 subject of three books in Japan and other reports are
21 still being compiled. The spill has cost over \$160 mil-
22 lion dollars and the accounting is not yet complete. It
23 caused a lot of social trauma. It demonstrated that
24 despite our advanced technology, we cannot handle large
25 oil spills in areas of wind, wave and current.

26 Therefore what can Canada learn
27 from the Mizushima oil spill? Different observers
28 would no doubt place different emphasis on what happ-
29 ened. I believe that the Mizushima spill demonstrated
30 the damage, environmental, political and social, that

C.W. Nicol
In Chief

1 can be caused by escaped oil even when contingency
2 planning and readiness is excellent, and even when
3 equipment and labor is quickly available.

4 It can be argued that the
5 damage to the Inland Sea was all the more severe because
6 of the intensive mariculture in the area, and that
7 Canada's coasts do not have this kind of intensive use.
8 However, to paraphrase politicians, we must look to the
9 future, and our coasts are being more and more developed
10 for future recreational and food-producing activities.
11 Moreover, the rather small spills which we have
12 experienced in Canada so far have already proven to be
13 extremely expensive to industry and government.

14 In the case of the Arctic, I
15 fear personally that Canada might follow the example of
16 Chile and their oil spill from the tanker "Metula".
17 The Chileans decided that the area was too remote and
18 difficult to warrant cleanup of any kind. Certainly
19 cleanup efforts in the Arctic would be very much more
20 expensive than in Japan.

21 Japan is a highly industrialized
22 nation with five times our population in a fraction of
23 the land area. Despite an extremely rugged coastline,
24 access to shores are generally excellent. Labor is
25 readily available, and the Japanese are an energetic and
26 dedicated people. Items of equipment (like long-
27 handled bailers) can be manufactured in record time
28 with a minimum of fuss.

29 In Canada we do not have the
30 labor force nor the amount of equipment that Japan has,

C.W. Nicol
In Chief

1 yet we have a coast which is much, much longer, just
2 as rugged and generally more difficult if not impossible
3 to get access to. I personally question whether govern-
4 ment agencies, whether it be federal, provincial or
5 municipal, would react in Canada as energetically to the
6 dirty field work as did the Japanese.

7 Of course, all problems of
8 cleanup and work of any kind are compounded by Arctic
9 conditions.

10 Finally, it is obvious that oil
11 spills are of international concern, and that inter-
12 national exchange of knowledge, technique, and even
13 of materials is a goal to be earnestly pursued by all
14 maritime nations.

15 So I ~~did~~ present some slides
16 but because
17 /of the difficulty of presenting slides together with
18 reading, I haen't given them. If you'd like to see the
19 slides I will show them.

20 THE COMMISSIONER: I think we'd
21 like to see them. Just before you show the slides, as
22 a matter of geography, where was that spill off the
23 coast of Chile?

24 A It was right on the
25 southern tip, sir, ^{as} you go through the Straits of Magellan
26 an area of high current and bad weather conditions.
27 Canada also sent observers to that spill.

28 Q And what was that -- just
29 in rough terms -- what was the volume of oil spilled in
30 Chile? You compared it to the Mizushima spill.

A I've only studied this

C.W. Nicol
In Chief

1 spill very, very superficially, but I believe it was
2 more than the Mizushima spill.

3 THE COMMISSIONER: O.K., well
4 let's see the slides then.

5 MR. BAYLY: The slides will take
6 approximately 20 minutes to show, sir.

7 (QUALIFICATIONS & EVIDENCE OF C.W. NICOL MARKED
8 EXHIBIT 550)

9 A This presentation was not
10 prepared by me for this Commission, I should say. This
11 is the 43rd time that I've had to talk about the Mizu-
12 shima spill in public. I'm getting just a little bit
13 bored of it, but anyway here it goes.

14 You may cheer at this point if
15 you like. This is a map showing the area of the Inland
16 Sea and the refinery site. The refinery site is about
17 400 miles from Tokyo. As I said, the area has a very
18 rugged coastline, mountainous, a very beautiful coastline.
19 The many islands remind me of our Gulf Island area and
20 comprise a Marine National Park. All of these are
21 part of a Marine National Park. As I said, the area
22 is very heavily travelled by ships. You see what I
23 mean, eight super tankers a day, 1,800 freighters,
24 barges, ferries, etc. That's a small tanker carrying
25 gas. Despite the rugged coastline you have settlements
26 everywhere along the coast. Excellent access. But
27 you also have sudden storms that in the winter the wind
28 comes in from Siberia and creates wintery conditions,
29 even snow. The refinery occupied some 367 acres marked
30 in red there, and you'll notice from the slide that

C.W. Nicol
In Chief

1 the yellow area is landfill also, and that the harbor
2 seems to be very well sheltered and contained. The
3 black arrow there marks the tank from which the spill
4 occurred.

C.W. Nicol
In Chief

1 Once again, I would
2 stress that when I went -- if I had gone there without
3 knowing about this spill, I would have said that an
4 oil spill into this harbour would be no real problem to
5 contain and clean up.

6 It is built up all around,
7 excellent access to the harbour. You are looking here
8 from the entrance to the harbour to the massive storage
9 tanks -- 15 million gallons each.

10 Again, I'm stressing that
11 these seem -- this seems to be a harbour which would be
12 no problem to use oil booms and oil recovery equipment.

13 The contingency planning
14 of the refinery was excellent. Oil tankers coming in,
15 automatically boomed and oil spill equipment is instantly
16 available. The men at this refinery are very well trained.
17 However, the spill didn't occur from a ship. It occurred
18 from a tank in an area that they hadn't predicted it, into
19 that actual area.

20 This is the infamous
21 tank number 270. I have been talking a lot in meters but
22 that tank is about 100 feet high so it's quite large.
23 You can see the buckling of the tank which was caused
24 when the oil rushed out and created a vacuum. What you
25 can't see in my photographs is the top of the tank is
26 split right across.

27 The oil escaped from this
28 rift -- an 8 meter long split in the bottom of the tank.
29 There was a dyke wall around the tank but the oil came
30 out with such force that it couldn't be stopped. It was

C.W. Nicol
In Chief

1 also very hot. The ladder was of this type -- 34 tons
2 of concrete and steel. When the oil escaped it pushed
3 this ladder aside and smashed it through the retaining
4 wall.

5 Very fortunately none
6 of these product types were damaged. Otherwise the
7 spill would have been even worse. That's the dyke wall.
8 I should say we have better dykes in Canada, generally.

9 The oil went into this
10 road and went down this road. It turned the corner and
11 went down this road. It got into this canal and then it
12 went over the separator --this is the separator -- into
13 the Mizushima harbour when all the booming operations
14 were carried on in the middle of the night in the dark
15 in wind and waves.

16 Then the oil escaped
17 in the very early morning out into the Inland Sea and
18 I'm going to show you charts I drew up of the area affected
19 by the oil in the first five days.

20 I have cut off the bottom
21 of the main island of Shikoku. And if you were to
22 extend that map north of Shodo Island you would reach
23 the big port of Osaka and Kobe.

24 So that was the first
25 morning. By the afternoon the oil had gone down some
26 15 miles of coast. By the following morning it had
27 affected some 30 -- had gone some 30 miles.

28 So within 5 days, 469
29 kilometres of coast line were affected by this spill.
30 Now, when I look at -- when I did this I obviously did

C.W. Nicol
In Chief

1 it for dramatic effect. What it is showing is the
2 area affected by spill. It does not represent the way
3 the oil spread because oil, of course, doesn't spread
4 out in one thin sheet. I took this photograph off one
5 of the operation centres and the red marks there are
6 oil spills or slicks, some 2 or 3 miles long and half
7 a mile wide. They kept on moving and this is the
8 impression that I got of the oil -- of movement, of
9 continual movement.

10 Booms were placed but if
11 you place booms in conditions like this which are not
12 particularly bad, they're ineffective.

13 This is some of the nets
14 affected by the oil. The fishermen's cooperatives, were
15 used to handling small oil spills and they all have
16 booms, they all have booms. And they were told of the
17 oil spill and immediately boomed their own harbours but
18 these little booms were not effective and you can see
19 the black mark of oil here. The press of oil was 'so
20 much that it just pushed the booms aside or went over
21 them.

22 So these islands were
23 all polluted and this coastline was all polluted.
24 Something that I should draw our attention to when we
25 think of the Arctic, all over the Inland Sea, you have
26 little towns like this of half a million to a million
27 people where you can get pretty well anything made at
28 very short order.

29 This picture was taken
30 three weeks after the spill 70 miles from the accident.

C.W. Nicol
In Chief

1 And you see oil boiling through a channel between two
2 islands. The floating things there were nets.

3 Q I think, Mr. Nicol, you
4 had better explain which colour is the oil.

5 A Well, the oil is that
6 the sheen. It has a reddish colour in places. That's
7 sludge. You see a reddish colour on the water. That's
8 oil-water emulsion -- chocolate mousse. If this wasn't
9 a formal hearing I would tell you the Japanese word for
10 it, but I better not.

11 All these fishing boats
12 were laid up, but again this picture will demonstrate
13 that despite a very rugged coastline, access is excellent
14 to the shore, and boats available all over the coastline.
15 Little communities like this were economically wiped out
16 by the oil spill.

17 During the weeks that I
18 was there storms persisted and made clean-up on the
19 ocean or recovery of oil on the ocean extremely difficult.
20 Again, I will stress that I got an impression of movement.
21 The oil was always moving. Striated slicks kept on
22 coming in and filling up the small bays and affecting the
23 compounds. You see there the fence of a mariculture,
24 fish culture station and the silvery sheen is, of
25 course, oil.

26 Oil travelled up river
27 some 600 yards with the tides. You can see oil on the
28 river banks there. This is an area after clean up, a
29 silvery sheen of oil, a dead looking sheen of oil, a
30 month after it had been cleaned.

Tf.

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C.W. Nicol
In Chief

1 masks, not because of cold but because of the stink
2 of rotting seaweed, dead clams and oil.

3 You can see there oil
4 splashed up a jetty wall but you can't see that the
5 oil is also hidden in the sand in three layers. Japanese
6 are very impressive people to work with and to observe
7 working. They don't bitch if they don't get their
8 boxed lunches. These men work from dawn till dusk and
9 looked after themselves in the field, cooking and so forth.

10 But the logistics of
11 moving so many thousands of men is staggering.

12 All these plastic bags
13 are filled with polluted beach material. Okay, you
14 collect all this stuff. What do you do with it? You
15 have to take it away somewhere. You can't just leave
16 it there. Long-handled bailers. I -- just for my
17 own education, I tried in Vancouver when I came back
18 phoning up some companies and asking them if they could
19 make me 10,000 long-handled bailers and how long would
20 it take. And all I got was snorts of derision.

21 These are one of the
22 tough gentlemen who made sure you went where you were
23 supposed to go on the roads, controlling traffic.

24 Very early in the
25 morning -- military equipment moving in the oil spill
26 area.

27 This coast was very
28 good for oysters and you can see what the oil did.
29
30

C.W. Nicol
In Chief

1 I didn't pick a bad place for
2 my photographs. This was a yellow sand beach. This
3 was part of the coastline which could not be reached by
4 equipment, and I don't know how they eventually cleaned
5 it up, but you can see oil sludge moving in along the
6 coast there. This is the kind of muck that they had to
7 deal with. It's very heavy, it's full of debris, it
8 breaks equipment, it breaks down the slick-lickers and
9 it clogs up many of the kinds of pumps we use here in
10 Canada, and they use in Japan.

11 Q Can I ask you, Mr. Nicol,
12 if that is debris floating on the water?

13 A That's all oil, sir,
14 that's all sludge, it's about 12 inches thick.

15 THE COMMISSIONER: Is that on
16 the beach?

17 A No, that's on the surface
18 of the sea. That's the sea surface. Now, you get
19 oil recovery equipment like booms and it requires
20 training to be able to lay a boom effectively, and to
21 utilize the currents. In many cases this very expensive
22 boom was used ineffectively, that's totally ineffective,
23 that boom there. Again this is a jetty wall, I think there
24 must be about six or seven feet of water underneath
25 that awful mass of oil and debris. All those trucks
26 are involved in picking up the oil. This is the kind
27 of stuff that was collected by hand. I keep on going
28 back to the fact that oil is continuing to move. I
29 took this photograph of sets of nets, the orange floats
30 are net sets, permanently fixed nets. The next day oil

C.W. Nicol
In Chief

1 moved in and wiped out those nets as well, moving all
2 the time you can see these striated slicks moving with
3 the wind, coming off beaches and onto other beaches.
4 When you get an oil boom and you dirty it, picking up
5 oil, then you have a problem of what to do with the
6 boom. It's very expensive material. You have to clean
7 it, you have to clean it in an environmentally acceptable
8 way so you don't get the oil off the boom back into the
9 water. This is a fish dying in a pond. I picked this
10 one fish, not for dramatic effect, although it may have a
11 little, in that this was a pond whose water intakes were
12 three meters below the low water mark, and separated by a
13 wall, and the oil was carried in by waves and emulsified
14 and then it got into the ponds and killed the fish.
15 These jetty walls are very difficult to clean, but
16 they were cleaned, all of these were cleaned.

17 This is after cleanup, a dead
18 looking slick over acres and acres of bays after
19 cleanup, you can't do anything about that. This is the
20 operations centre that I was at at six o'clock in the
21 morning. This is the downstairs room at about ten
22 o'clock at night. This is a government operations
23 centre, not quite so busy in dynamics, but still pretty
24 busy. I can say that, I'm a government man. These are
25 part of the oil recovery fleets, just part. This also is
26 part of the oil recovery fleet. They could get six or
27 seven 45-gallon drums in one of those boats and then
28 they told me that a fisherman's wife could fill up a
29 drum in 20 minutes. I don't know how long it took her
30 husband, but they used thousands of these boats. But

C.W. Nicol
In Chief

1 they also used sophisticated equipment like these
2 patrol vessels to co-ordinate movement. This is a combined
3 fire-fighting oil recovery vessel loaned by a refinery.
4 This is also used, all these heavy tugs were used.
5 The "Mutsuyu" is a specific oil recovery vessel, all used
6 in the efforts. This vessel is about 220 tons, I
7 believe. It's the largest oil recovery vessel
8 in Japan. It captures oil in booms and then that
9 red device there is a floating weir and pump. She's
10 a big vessel, as you can see, and quite sophisticated.
11 She has an oil-water separator aboard her. This is a
12 Japanese Government vessel.

13 That's the pump and the weir.
14 We don't have anything like that in Canada. This is a
15 garbage recovery vessel. These vessels are common in all
16 ports in Japan. It has a little movable jaw in the
17 bow which opens up, and then it ferries down windrows
18 of garbage, and the garbage goes into the inside. This
19 is very effective in chasing down the oil, and it picked
20 up oil quite well. Then the jaw would be closed and
21 the oil ^{was} pumped out and the debris lifted out, because
22 the inside of the well has a closable steel mesh basket
23 which can be lifted out by crane. That big vessel off-
24 shore there, was an oil incinerating ship, an old
25 freighter, an old tanker that was changed for the
26 purpose of destroying oil. Equipment was used all over
27 the place from small rather typically miniature Japanese
28 equipment like this, to very large bulldozers. Trucks
29 moving in the dozens if not hundreds. Men moving from
30 very early in the morning. I travelled with the team, so

C.W. Nicol
In Chief

1 I was having to get up at four o'clock in the morning
2 and I didn't get overtime from that trip either.

3 Some of the long-handled bailers.
4 These really impressed me. This was one of the collecting
5 sites, looking now at three days' accumulation of oil
6 and muck in drums, in one of the four sites. Those are
7 empty drums, vacuum trucks pulling the oil into one
8 central area in each of the four main operating areas.
9 I didn't take pictures of the same drums, I stood in
10 the middle and started taking photographs all around
11 me. They also threw up dykes and put the recovered
12 oil and muck into these dykes. These are stockpiles of
13 absorbents -- booms. Booms and chemicals and so forth.
14 Massive amounts of protective clothing, of course, and
15 then the long-handled bailers. They used steam cleaners
16 here. We very often are accused in the government of
17 travelling at great expense to the taxpayer, but as I
18 had to present this to my head office in Ottawa, I
19 included my transportation, which was on loan from the
20 Mitsubishi Oil Company.

21 An important fact to be
22 remembered by the industry is it closed down the refinery
23 for eight months. This is some of the mess
24 inside the refinery itself, on the land, despite retaining
25 walls. This may not be of use to this Inquiry, but
26 when I left Japan I left with a very sober or very
27 frightening thought, ^{and} that was that oil storage
28 facilities are very, very often put close to water,
29 in Canada too, in Japan certainly, and like this all
30 over Japan, and Japan is an earthquake country. Thank

C.W.Nicol
In Chief
Cross-Exam by Veale

1 you for listening to me. That concludes my evidence.

2 MR. BAYLY: Mr. Nicol, you
3 referred to three books being published, and I understand
4 that you brought one of those books with you, and it's
5 your only copy but that you would be able to make it
6 available for view by the Inquiry.

7 A Yes, I have. This book was
8 produced by one of the members of the panel for the
9 government report, and it's at loggerheads with the
10 Japanese Government report.

11 THE COMMISSIONER: Is it
12 translated?

13 A I'm sorry, sir, it's
14 not translated. It has some very dramatic pictures which
15 might be interesting.

16 MR. BAYLY: I understand as
17 well, Mr. Nicol, that it would be possible for you
18 to make copies of your slides available to the Inquiry
19 if that was the wish of the Commissioner.

20 A Certainly.

21 THE COMMISSIONER: Fine. Well,
22 thank you. Those slides are very interesting.

23 MR. BAYLY: Mr. Nicol is now
24 available for cross-examination.

25 THE COMMISSIONER: Yes.

26

27 CROSS-EXAMINATION BY MR. VEALE:

28 Q Mr. Nicol, the oil in-
29 volved in this particular example that you've shown us
30 is bunker C. Now, what is the difference between bunker

C.W. Nicol
Cross-Exam by Veale

1 C and crude oil which would be coming from, well, Prudhoe
2 Bay, say, or the Beaufort Sea or the Mackenzie Delta?

3 A I should say first that
4 this is not my particular area of expertise, but as I
5 understand it, bunker C has already gone through some
6 of the refining processes, and some of the lighter
7 fractions have been removed from it. If I may say that
8 in oil spill recovery and what happens to oil that's
9 been chopped around by waves and so on, there isn't much
10 difference between bunker C and crude. The "Metula"
11 spill, I believe, was of crude oil and it turned into
12 a mousse, into sludge, just as the bunker C did.

13 Q The water temperature
14 then has a great deal to do with it, does it?

15 A Yes. Water temperature
16 and physical activity of waves, currents, and time.

17 Q Another point, you're
18 with the Environmental Protection Service. I understand
19 that there is a divided jurisdiction with respect to
20 oil spills with the Ministry of Transport. Could you
21 explain just how that jurisdiction is divided?

22 A The jurisdiction is
23 divided very, very simply. If there is a spill from a
24 ship or a vessel into the marine environment, then the
25 Ministry of Transport would be the governing^{or} co-ordinat-
26 ing body for cleanup. If the spill occurs from land
27 into the environment, into the marine environment, then
28 the Environmental Protection Service would be the leading
29 body for cleanup.

30 Q I presume in most circum-

C.W. Nicol
Cross-Exam by Veale

1 stances both bodies would be involved then because
2 oil normally finds its way to land in some fashion?

3 A Yes, in our operations in
4 certainly
the Pacific Region we don't squabble about whose it
5 is. We co-operate very closely.
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C. W. Nicol
Cross-Exam by Veale

1 Q Could you tell us --
2 you've mentioned a number of types of methods for
3 cleaning up oil. Could you tell us what methods are
4 available now in Canada?

5 A Well, basically oil
6 recovery devices either suck the oil or let it fall
7 from the surface into a collecting area, and then it's
8 pumped up; or, it picks up the oil by moving belt
9 devices or moving discs or something like this..
10 There are many, many devices to remove oil from the
11 surface of water. However, I would say that these devices
12 all function when the oil is contained and when there's
13 not too much current or wind or waves.

14 Q What are the precise
15 conditions? Have you indicated them all right there?
16 The wind and wave, and what else?

17 A For oil recovery equipment?

18 Q Yes.

19 A For?

20 Q What I'm trying to determine
21 is, when is oil recovery equipment efficient?

22 A When, the oil recovery
23 equipment is efficient in calm water with currents
24 less than two knots. There are exceptions. You can
25 take a ship or an oil recovery device and booms and
26 travel with the current and collect the moving oil as
27 it's moving and take it off the surface of the sea.
28 I believe that -- again, it's outside of my particular
29 expertise and knowledge at this moment, but I believe
30 that the most modern oil recovery equipment in Canada

C. W. NICOL
Cross-Exam by Veale

1 today can cope with oil at Beaufort Sea State 3. I'm
2 referring now to the "Bennett Mark IV," but I haven't
3 see detailed studies on this and I haven't been aboard
4 it when it's trying to pick up oil.

5 Q I see, you're referring
6 to ships, are you?

7 A I'm referring to a
8 floating oil recovery vessel which was developed in
9 Vancouver under funding from our Government.

10 Q What's the name of that?

11 A It's the "Bennett Skimmer
12 Mark IV." I'm not trying to sell it for Mr. Bennett, by
13 the way. There are other devices which we have in
14 Canda which they didn't have in Japan.

15 Q For instance?

16 A The oil mop which is
17 a device which has a sort of an oil absorbing rope which
18 goes around like a boom and then is pushed through a
19 squeezer device to take out the oil and this is quite
20 effective when the oil is contained.

21 Q Canada had an oil spill,
22 the "Arrow," I believe it was called. That's the name
23 of the ship.

24 A Yes.

25 Q Could you comment on
26 whether research has been done to have more sophisticated
27 collection techniques or recovery techniques since that
28 spill, and also comment on generally the capability of
29 the -- or the state of the industry in Canada to have
30 efficient and good recovery of oil spills?

C. W. Nicol
Cross-Exam by Veale

1 A Certainly a lot of
2 research is being done and I think Canada is in the
3 lead in research. At the Center of Spill Technology
4 in Burlington , they've been analyzing all kinds of
5 devices for recovering oil from the water and on the
6 effects of oil dispersants and so forth. But, as far
7 as I know, this all pertains to contained oil; to oil
8 that can be controlled inside booms. So, yes, we have
9 good devices for picking up oil that is contained inside
10 a boom or can easily be reached.

11 What, I'm being a little bit
12 evasive; I don't think that the state of technology
13 of oil spill recovery is adequate to cope with any major
14 spill. That's a personal comment.

15 THE COMMISSIONER: Anywhere.

16 A Anywhere in the world.
17 Not a major spill.

18 MR. VEALE: Well, let me just
19 quote some testimony before this Inquiry. It's in
20 volume 44, the Community Hearings at Tuktoyaktuk on
21 March 8th and 9th of this year. It's Mr. Hnatiuk, I
22 believe is the pronunciation of the gentleman's name
23 and he was talking about recovery procedure. I quote:
24 "In the summertime, the oil would spread with
25 surface currents and depending on which way the
26 winds are blowing, if the oil were not contained.
27 But there will be almost a mile of rubber boom or
28 special rubber skirt on the ships and onshore to
29 keep the oil from spreading on the open water.

30 As the oil were held in place, it will be

C. W. Nicol
Cross-Exam by Veale

1 collected by a boat."

2 Now, this is assuming Arctic
3 conditions in the summer and could you comment on some
4 of the problems that could result in that scenario there?

5 A Well, I don't like to
6 say how much oil could be spilled into the Beaufort
7 Sea. I don't know, but if it was an equivalent amount
8 to the Japanese spill, you notice that they used 25,000
9 odd meters which is an awful lot more than one mile.
10 From what I know of the Beaufort Sea, you have troubles
11 there with debris, very large logs and so forth, and
12 this could present a problem to your booms. I don't
13 know ^{what} kind of boom they're using. Most booms would
14 run into trouble with large logs that move out of the
15 Mackenzie in the runoff. / Q I presume that that state-
16 ment that I quoted is qualified by proper or satisfactory
17 wind and current conditions.

18 A Well, I presume so too.

19 Yes. If I may again
20 draw parallels to the Japanese spill which occurred
21 into a harbor with perfect access with equipment made
22 available right on the spot. They couldn't contain
23 their spill and they had more equipment than we have.

24 Q In referring to Arctic
25 conditions, you've spent a number of years in various
26 places in the Arctic and your precise job I understand
27 as a technician is to oversee the general management
28 of equipment and men in a recovery process. What would
29 be some of the difficulties experienced in the Arctic?

30

C. W. Nicol
Cross-Exam by Veale

1 A Of course, I should state
2 that I'm working now in the Pacific region in Vancouver
3 and I'm not, at this time, dealing with Arctic conditions
4 and Arctic oil spill recovery systems. However, I
5 would guess from my own background that if there was a
6 major oil spill, the biggest problem would be trans-
7 portation of men and equipment to the site and the
8 deployment of men and equipment on the site. Some
9 of that equipment is quite heavy and would have to be
10 transported very quickly and I don't know if it could
11 be.

12 In the Arctic, you'd have to
13 use helicopters very extensively. Of course, weather
14 conditions. I'm sure this Commission has heard enough
15 about weather conditions without me adding anymore.

16 Q Can you talk about the
17 difficulty or if there would be any difficulty in
18 disposal once collection was done? I mean, it seems
19 in the examples that you've given that there were places
20 nearby that you could take the sludge and dispose of
21 it conveniently. What happens in the Beaufort Sea, for
22 example?

23 A Well, you couldn't just
24 dump it on the land. It would have to be contained
25 in -- I don't know, drums or specially made dykes or
26 tanks available or you'd certainly have to have sites
27 for disposal.

28 Q Now, I understand the
29 Japanese example that they were actually recycling it?

30 A Yes, this was a very,

C. W. Nicol
Cross-Exam by Veale

1 very costly business, but it was more costly to keep
2 land tied up in storage of this material; land being
3 at a premium in Japan, they had to get rid of the oil
4 so they recycled it.

5 THE COMMISSIONER: It's almost
6 like nuclear waste, trying to figure out what to do with
7 it.

8 A Yes and in the Pacific
9 region, when we have a spill and we pick up a lot of
10 stuff, we always have squabbles with people about where
11 the oil should be disposed of. We solved that problem.
12 When I say "we" I say not just EPS, I mean the industry
13 and the governments.

14 Q What do you do with it?
15 You say you solved it.

16 A There are certain sites
17 which will accept the oil and the refineries will take
18 back some of the oil and store it and I believe before
19 I took up this job, that Imperial Oil recycled some of
20 the oil -- some of the recovered oil. But again, I
21 don't know for sure.

22 Q I take it that they -- it
23 was -- would have been dangerous to try to burn the oil
24 in that harbor?

25 A In the harbor, sir, I think
26 it would have been suicidal to attempt to burn the oil
27 but once the bunker C or crude for that matter gets
28 weathered, it's almost impossible to burn.

29 Q Yes.

30 A In the case of the Torrey
Canyon, they've dropped napalm on it and they couldn't

C. W. Nicol
Cross-Exam by Veale

1 burn it off.

2 Q Yes, but I mentioned
3 the harbor because presumably, it may not have
4 weathered when it was in the harbor merely.

5 A Yes.

6 Q But a spill like the
7 "Torrey Canyon," you know that one in Chile or in the
8 Beaufort Sea, assuming it was -- assuming that it would
9 still burn, that's just about the only conceivable
10 method of disposing a substantial quantity at all, isn't
11 it?

12 A I think it's very difficult
13 to get bunker C or crude oil on water no matter how
14 fresh it is, to burn, you need something to start.
15 Just two weeks ago, I was involved in a cleanup on the
16 west coast of Vancouver Island and we dealt with a
17 heavy oil that had washed up on the beaches and we
18 picked it up and burnt it and it took a lot of deisel
19 and highway flares to get that oil to start to burn.
20 But it was fairly fresh.

21 MR. VEALE: Mr. Nicol, I
22 understand that you have also had experience with an
23 oil spill that went into a river system, the Salmon
24 River, I understand which is a tributary of the Fraser
25 River. Could you tell us what your experience was with
26 the spill in the river and cleanup attempts?

27 A My part in that action
28 was in the Fraser, several hundred miles downstream
29 from where the spill had actually occurred. The spill
30 occurred because the pipeline ruptured on the river

C. W. Nicol
Cross-Exam by Veale

1 bottom and released the contents of the pipe. The
2 pumping stations were shut down in very quick order
3 but oil escaped into the river and I was with a team
4 from supervisory consultants in Alberta and they were
5 attempting to boom this oil which had gone down the
6 Salmon River which was in flood and into the Fraser
7 and then through Hell's Gate so by the time it got that
8 far, it was very much in emulsion and booming was totally
9 ineffective.

10 In other words, we just had
11 to leave the oil go. It could not be contained in
12 those currents.

13 THE COMMISSIONER: Where was
14 that? Salmon Arm -- Salmon River?

15 A Yes, in B.C. This was
16 two years ago.

17 MR. VEALE: Well.

18 THE COMMISSIONER: That wasn't
19 the Transmountain?

20 A That's right.

21 MR. VEALE: If there were a
22 spill -- an oil spill in Arctic conditions on a river
23 or on the Beaufort Sea, would you recommend that the --
24 that oil companies and the government have stockpiles
25 of equipment and have a contingency plan ready to do a
26 cleanup?

27 A Well certainly I would
28 recommend it but I would like to think that any
29 contingency plan was not just to respond to the public
30 pressure. I wouldn't put any booms or stockpiles of

C. W. Nicol
Cross-Exam by Veale

1 equipment on a length of river that had no quiet eddies
2 where you could capture the oil. I wouldn't tell the
3 industry to waste its money trying to boom oil on a
4 fast river.

5 Q Well the only thing you
6 could --

7 A You know, I should
8 qualify that. Even a fast river does have quiet eddies
9 and maybe you can angle the oil in and collect it there,
10 but any contingency plan I would like to see planned
11 very carefully with the industry's needs in mind as
12 well. I don't like to see money wasted by anybody and
13 on that Fraser River cleanup, the booming was done
14 when I had told them, and I'm sure they knew that it
15 would be ineffective. It was a \$20,000 a day operation,
16 this cleanup and I said that I would take responsibility
17 for telling them to quit working because I knew it
18 wouldn't be effective but the industry felt that it had
19 to. Very commendable, but it was, ineffective.

20 Q Well, you've mentioned
21 in your evidence that you fear that in the Arctic, the
22 Chilean example may be followed and that is that's
23 too remote and too difficult to warrant any cleanup.
24 Do you still stand with that that it's -- I mean, I
25 suggested this stockpiling as a method of preparing for
26 the cleanup. Are you pessimistic about the success
27 of it, is that what you're driving at?

28

29

30

C.W. Nicol
CROSS-Exam by Veale

1 A Well, I ^{wondered} how many
2 areas and locations you would expect government or
3 industry to pile up booms, and who would be looking
4 after it, and who would be the trained men who could
5 go in and use it immediately? Of course I would like
6 to see contingency plans and of course I would like
7 to see lots of equipment available, but I think I
8 personally would hesitate to order the industry to spend
9 millions of dollars on equipment that may not be
10 effective. I must state again that I'm stating my own
11 personal opinion and not that of my department.

12 THE COMMISSIONER: Well, you're
13 saying that we might follow the example of Chile, not
14 voluntarily but simply because of inability to clean up a
15 major oil spill in the Beaufort Sea.

16 A Yes, I think in Canada
17 we probably would have a lot of pressure to clean up and
18 we would respond as well as we could. But it would
19 probably be a ^{selective} cleanup and I can say this on
20 some small authority because of an experience just two
21 weeks ago on the West Coast of B.C. where we had some
22 oil pollution along the Pacific Rim National Park on
23 the west coast of Vancouver Island, and I was given the
24 odious task of trying to clean it up, and we picked
25 beaches which the public would visit, which we could
26 get at, and we tried to clean up those beaches. But
27 areas that we couldn't get at, we didn't try to get
28 at, and I think this might happen in the north, that
29 any cleanup would be selective, and I would not want
30 the job of selecting which area was important to clean

C.W. Nicol
Cross-Exam by Veale

1 up in the north.

2 MR. VEALE: You'd mentioned
3 the use of chemicals to emulsify the oil. Would you
4 recommend that in the north as a method of cleanup?

5 A No.

6 Q Why not?

7 A At present Environment
8 Canada's policy with regard to oil is that we want the
9 oil off the water and chemicals mix the oil into the
10 water, and the present guidelines as set down by
11 Environment Canada say that chemicals should not be
12 used for mixing the oil into the water or dispersing
13 it, unless there is a danger of fire or hazard to human
14 life. I personally don't think dispersants are very
15 effective in cold waters, and I don't think they're
16 effective with crude oil that's been chilled.

17 Q You talked about the
18 tremendous manpower that was available for cleanup in
19 Japan. Where would you foresee that manpower coming
20 from in an Arctic oil spill condition?

21 A Oh, again that's out of
22 my area of knowledge but perhaps we could do what we
23 do in Canada with forest fires.

24 Q You're talking about
25 local northern residents?

26 A Yes. I'm sure it would
27 have to be local residents who would do the bulk of the
28 work, with expert guidance from the industry and govern-
29 ment, certainly, but the labor I think would have to
30 be obtained locally.

C.W. Nicol
Cross-Exam by Veale

1 Q It strikes me that what
2 you're saying is that cleanup should be attempted but
3 it's unlikely to be very successful, so the conclusion
4 that I would draw is that there's going to be a certain
5 amount of inherent risk that the damage will simply
6 have to be accepted in oil spill circumstances.

7 A You put it very simply
8 but I think that is correct. I would say that my personal
9 philosophy is that cleanup must be attempted, but we
10 can only do what we can do. You can't blame the indus-
11 try, for instance, for not being able to clean up oil
12 in rough weather conditions. The equipment for cleaning
13 up oil in rough weather conditions is not available to
14 them.

15 THE COMMISSIONER: It doesn't
16 exist.

17 A It doesn't exist.

18 MR. VEALE: Those are my
19 questions.

20 THE COMMISSIONER: All right.
21 Well, it's been a long day. I think we'll postpone
22 cross-examination by other counsel until tomorrow. So
23 if you would stay with us until tomorrow, sir, and we'll
24 carry on then at 9:30 in the morning.

25 (PROCEEDINGS ADJOURNED TO APRIL 8, 1976)

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347
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